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# AMERICAN NURSERYMAN

*The Nurseryman's Forte: To Make America More Beautiful and Fruitful*

**JANUARY 1, 1939**



**Chaenomeles Lagenaria**

**Regulatory Laws and State Boundaries  
Appraising the Bellflowers  
Kansas Nursery School  
Charlie Chestnut**

# AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

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## THE NEW YEAR.

When snow and ice put a stop to most nursery operations, there is time for the still more important work of planning for the new year. The current conventions stimulate thought on the problems of present importance. Besides the matter of production, involving the questions of shortages and surpluses, still more vital factors require thought. Progress demands more attention to management and merchandising. How are you going to sell your stock and how are you going to make a profit in so doing? Those questions are at the root of the problems of policy and direction of activities. Efficiency, better accounting, more attractive nursery grounds, additional outlets, better advertising, improved personnel—all these are but items in the development of management and merchandising policies.

No lengthy dissertation is called for in this connection. Each nurseryman knows his opportunities and his weaknesses, at least if he will give thought to them. Now is the period for study, reflection and planning.

General business is on the uptrend now, in contrast to a year ago. Building activity is nearing a high point, as is told in another column. With the advantages apparent, the more thought given to the matters indicated, the better your prospect for, as we wish, a more prosperous new year!

## BIG GAIN IN BUILDING.

How much new business nurserymen may expect in 1939 is indicated by the forecasts of residential build-

## The Mirror of the Trade

ing. The prediction that it will reach a level approaching the boom era of the 1920's is not the wild hope of optimists, but an estimate based upon current figures.

Early last month the Department of Commerce made public an estimate of building construction, accompanied by a prediction that residential building will show a gain of thirty to forty per cent next year. That estimate is regarded as too conservative by some, according to the New York Journal of Commerce, which has stated that among building material manufacturers a rise of sixty to seventy per cent is expected. In 1938 about 300,000 new dwelling units were constructed, as against 284,000 in 1937. A total of from 475,000 to 500,000 in 1939 is predicted in the building industry.

Residential contracts for the fourth quarter of 1938 were approximately \$300,000,000, which amount is seventy-seven per cent larger than the total of residential contracts placed in the final quarter of 1937.

Operations of the Federal Housing Administration support the prediction. Small home mortgages selected for appraisal during the month of November totaled \$84,140,515, an increase of 125 per cent over November, 1937. For the eleven months ended November 30 small home mortgages selected for appraisal showed an increase of sixty-seven per cent over the corresponding month in 1937. Mortgages accepted for insurance by the F. H. A. in November totaled \$58,249,800, an increase of eighty-eight per cent over the same month of 1937, while for the first eleven months of the year an increase of forty-two per cent was noted over 1937.

The recent action of the President in increasing the insurance available for F. H. A. loans by another billion dollars assures continued lending for small home building throughout 1939.

THE oldest community forest in the United States was established in 1710 at Newington, N. H. It supplies the town buildings with fuel and produces public revenue as well as recreation.

## CHÆNOMELES LAGENARIA.

Chænomeles lagenaria, called Japanese quince or Japanese flowering quince, is not to be confused with the dwarf Japanese quince, Chænomeles japonica (synonymous with C. Maulei), often sold as Cydonia japonica, though the genus cydonia is correctly restricted to species of quince grown for fruit.

Whereas the dwarf form grows only to a height of three feet, C. lagenaria attains a height and spread of two or three times that figure.

The ability of C. lagenaria to withstand smoke and soot, a rare quality in shrubs, recommends it for city planting. However, its susceptibility to fire blight and San José scale has restricted its use to a great extent, but spraying with lime-sulphur or other preparations will eliminate these pests.

There are many varieties of C. lagenaria, in a considerable spread of colors. The true species has flowers of a brilliant scarlet, produced in April on the leafless branches, well back from the tips. The leaves are glossy green, appearing in clusters; the tips of the leaves and the branches are red. The branches are often irregular and thorny. They bear a yellowish green, pear-shaped fruit, that has little value except as used in jelly making and for its fragrance.

Being hardy as far north as Maine, New York, Michigan, Illinois, Missouri and Nebraska, the Japanese flowering quince presents many possibilities as a worthy shrub for landscape plantings. Some growers suggest training it to tree shape, in which cases the branches droop in a graceful manner. It also appears to good advantage at the center of a bed of low shrubs.

Root cuttings furnish the easiest method of propagation. The cuttings are taken about two inches long in the autumn and stored in sand in a cool place until the spring, when they are planted horizontally in rows. The plants sucker freely, and so it is possible to divide the plants of choice varieties, but the plants must be cut back severely, as the suckers root poorly. Seeds may be stratified and sown in the spring. Care must be taken in transplanting this plant, as it is moved with difficulty.

# AMERICAN NURSERYMAN

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**The Chief Exponent of the American Nursery Trade**

*The Nurseryman's Forte:  
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No. 1

## Regulatory Laws and State Boundaries

*Examples of Trade Barriers Erected by Plant Quarantine and Inspection Measures, and  
Suggestions for Solution of Problem—By Richard P. White, A. A. N. Executive Secretary*

The subject of regulatory laws and state boundaries has more fundamental aspects than the obvious but important one of clarifying an immediate problem confronting state quarantine officials, state inspectors and the nursery trade. This particular matter is but a segment of a much larger and far-reaching problem. It is a problem confronting many industries of today's economic life and involves, in addition to state quarantine laws, all laws affecting interstate commerce and the rising tide of barriers to interstate trade.

Prior to the adoption of the constitution in 1789 each state had complete control over its trade with other states. Duties imposed by one state immediately led to retaliatory measures by other states. Tariff barriers between states were prohibited by the constitution and the consequent freedom of trade between states of the Union became the accepted way of American commercial life.

After 150 years of government under this principle, the matter of state laws and regulations serving as an impediment to the free flow of commerce between states has again become important, in such things as state regulation of interstate trucking, milk inspection laws under the guise of public health measures and taxation of the products of other states at such high rates as to virtually halt the sale of the product.

Simply stated, our segment of this problem has to do with the alleviation of hindrances to interstate commerce brought about by various state quarantines and regulations which

retard the free flow of plants and plant products from one state to another.

As a premise to the discussion, it must be recognized that individual state governments have a responsibility and an obligation to their agricultural and horticultural interests to protect them in so far as they are able, through appropriate legislation, from the introduction of dangerous insect pests and plant diseases. All state plant pest laws are predicated upon this responsibility and solely upon this principle. Rules and regulations promulgated under such acts should also conform to the same principles.

In the "Principles of Plant Quarantine" adopted by the National Plant Board, section 5 states:

A quarantine established for the purpose of attaining an objective other than that which it indicates or defines is open to serious criticism, even though the actual objective is itself desirable.

During the year-end gathering of scientists at Richmond, Va., Richard P. White, executive secretary of the American Association of Nurserymen, presented the paper published here before a joint session of the American Association of Economic Entomologists and the American Phytopathological Society. Introductory statements traced the problem of state interference with commerce from colonial times to the present, when its importance has led to consideration of possible solutions by various bodies. Here are set forth the particular handicaps faced by nurserymen, as well as proposed methods whereby they might be removed. Because individual state action is necessary, nurserymen should familiarize themselves with this subject by a thorough reading of this paper, in order to promote more general knowledge and support of legislative measures to be undertaken.

Recently the National Plant Board adopted the following statement, which has been referred to the four regional plant boards, and already adopted by the Eastern Plant Board in Baltimore, November 16, 1938:

Nursery inspection service shall cover control of injurious insect pests and plant diseases, and shall not be used as a method of determining how nursery stock shall be merchandised or as a trade barrier.

It is believed this principle is being reaffirmed at the present time, due to the tendency of certain states to legislate, in plant inspection laws, on such things as grades, restrictions on merchandising methods, preparation of nursery stock for sale within that particular state, condition of stock, etc., all of which have absolutely nothing to do with the control of plant diseases or pests, but have a tremendous influence on free and unrestricted trade between the states.

It is recognized that nursery inspection services of some states have two distinct functions: (1) The control of injurious insect pests and plant diseases; (2) the determination of grades. Both functions could be misused and either might become the means of an effective trade barrier.

In view of the clear intent of the various state plant pest acts and the obvious attitudes as expressed in various resolutions and actions of the national and regional plant boards, let us now proceed to examine some of the specific things that result in a retardation of interstate movements of nursery stock and attempt to correlate these things with control of plant pests supposed to be occasioned thereby.

A most significant statement oc-



curs in the report of the thirteenth annual meeting of the Eastern Plant Board, held at Philadelphia, November 17, 1937, by B. M. Gaddis, of the bureau of plant quarantine and control. He said:

Effective enforcement of quarantines will be attained when, and only when, the present complicated quarantine structure is revised and standardized on a sound, workable basis.

This need was stated as "self-evident" in a committee report before the same meeting. The existence of nonuniformity in state plant quarantines is well known to this group and as well known to the postal authorities, public carriers and the trade who are either entrusted to the enforcement of the many varied rules and regulations promulgated thereunder or are trying to meet them. A most elucidating statement was given on this subject by Mr. Gaddis before the convention of state plant quarantine officials in Chicago, November 5, 1936.

As well known to this group, too, is the definite progress that has been made by the national and regional plant boards toward the solution of the problem. These efforts are in themselves conclusive evidence of the need, and it is hoped that in the not too distant future uniformity in state quarantines will be such as to relieve the tremendous burden placed on shippers and carriers now occasioned by present chaotic conditions.

It is further hoped that all states will accept the principles of plant quarantine as expressed by the plant boards and repeal all laws not conforming to those principles and refrain from enacting future acts that depart from the fundamental principle of pest control. For example, certain laws of certain states, presumably for the control of plant pests, specify the grades of nursery stock that are allowed entrance to that state. One state has a quarantine regulation on its books that specifies that no nursery stock treated with paraffin can be offered for sale in that state. Such regulations have no place in pest control measures.

Last spring a state legislature had a bill before it pertaining to the control of plant pests which among other things specified that all retail nursery salesrooms must have dirt floors. Such matters are not related to a biologically sound pest control measure. They are clearly intended to prevent competition and to set up within the bound-

aries of that state a quasi monopoly. Such instances exemplify the growing tendency in certain states to use plant quarantine laws for purposes other than pest control.

It has been stated by government authority that "regulations governing the movement of nursery stock are probably the most prolific source of red tape, annoyance, delay and expense." The trade has every confidence that the state quarantine chaos will soon be clarified, to the advantage of the consignor, the public carriers, the consignee, the state enforcement officials and the general public, without increasing the pest risk. It is impressed with the progress already made to this end and would commend the national and regional plant boards for their activities toward this objective.

#### Fees and Bonds.

Many states require of out-of-state nurserymen annual fees up to \$25 and bonds up to \$1,000 as a prerequisite to the entrance of nursery stock. The extreme case on this matter arose last year in a certain western state which had a nurseryman's bonding bill before it requiring a bond of \$10,000 for seven years after delivery of stock, and if the stock developed within the seven years any root disease or otherwise proved unsatisfactory, the shipper was to be held liable. The bill passed the assembly, but failed of consideration in the senate. The inspection service of many states is supported by fees collected from nurserymen.

It is maintained that the respective states have an obligation to all agricultural and horticultural interests within their boundaries to protect them from dangerous insect pests and plant diseases. The service becomes a public duty, therefore, and should be supported by public funds—not the funds of any particular group. Fees charged nurserymen within a state are a matter of state concern only, but fees charged out-of-state nurserymen come within the purview of this discussion, since such fees may well become and have become in some instances prohibitive. The only result is a reduction in interstate commerce with attendant loss of revenue to the carriers without decreasing pest risk. They are highly discriminatory, prohibiting the smaller grower and shipper from free competitive merchandising of his product, but serving only as a tax upon the business of the larger out-of-state concern. Each out-of-state grower must deter-

mine whether or not he can afford the tax or fee and still operate with profit under it. It is my opinion, speaking for the nursery trade, that all such fees and bonds should be abolished and that individual state inspection services should be supported solely by direct state appropriations.

The Central Plant Board meeting at Columbus, O., in March, 1938, spoke as follows on this subject:

That we go on record as being opposed to charging fees or the selling of tags to out-of-state nurserymen, and we request our delegates to the National Plant Board to request that board to work toward uniformity in nursery stock shipping regulations among the states.

Again the trade has nothing but commendation to offer the various plant boards for progress made.

#### Dual Inspections.

It is the practice of some states to require destination or terminal inspection of plants or plant products entering the state even though such shipments carry a current inspection certificate from the state of origin. This clearly implies a distrust of the inspection previously made by other state inspection officials. If certain states do not support the nursery inspection service in a manner adequate for the hiring of qualified inspectors, then I would say that the nursery industry of that state itself is at fault. Inspections at destination generally result in delay and annoyance. With a perishable commodity such as nursery stock, this delay is frequently costly, falling upon the consignee.

More important, however, from the viewpoint of hampering interstate trade is the matter of terminal post office inspections. A large volume of nursery stock annually reaches the consignee via parcel post. One firm alone is known to have shipped via parcel post in the spring of 1938 almost 250,000 separate packages. A great many nurseries scattered throughout the country deliver to their customers numerous small orders of stock via parcel post, with an estimated total per annum of well over a million such shipments.

Post office terminal inspection of plants and plant products was authorized by Congressional action, March 4, 1915. This act authorized state inspectors to inspect mail shipments of plants and plant products and if found to be shipped in violation of any federal quarantine, or if found to be

[Continued on page 22.]



# Appraising the Bellflowers

*Fourth in Series of Articles on Campanulas, a Genus of Wide Variety and Adaptable to Many Uses and Conditions—By C. W. Wood*

From now until the end of these notes on campanulas, it will perhaps be best to arrange them alphabetically rather than to try following either the systematists' scheme or that of the gardener. Their characters and uses are so diverse that it would no doubt only add to the confusion which seems to be a part of the genus.

Because most of the seeds I have had as *C. abietina* turned out to be some form of *rotundifolia*, I long despaired of ever securing the true plant. When I did get it at last I was not overenthusiastic about it, not so much because of its close mat of foliage, which serves as a background for the starry purple flowers on 12-inch to 15-inch stems during May, as because of its more or less biennial nature. If short life (it might be made to last longer by frequent division and top-dressing, as some have suggested) is no objection, *abietina* will serve you well, for it is an amiable plant in a sunny situation that is not too dry.

I can see no differences in material that I have had under label of *C. acutangula* and *C. arvatika*, both being minute plants with trailing stems emerging from a tiny rosette of ivylike leaves, each stem carrying a large lilac-purple star and the entire plant being not over two inches tall. The flowering period is quite long, covering most of May and June if the plant is satisfied with its home, though truth compels me to say that that state is not easily attained. I have never reached it under garden conditions in my dry soil, but have flowered it in frames where moisture conditions were more easily controlled. It requires a limestone soil and, here in northern Michigan at least, half shade as well as constant root moisture during the growing period. It is too difficult for the casual gardener, but is a little gem for the careful connoisseur.

Four species, *C. Aucheri*, *C. bellidifolia*, *C. Saxifraga* and *C. tridentata*, all from the Caucasus, may be grouped to save space. They differ somewhat in their leaves, *Saxifraga*'s being toothed along their upper halves while *tridentata* has from three to five notches at the apex, and, while they all have the habit of producing a pretty

purple bell at the end of each 4-inch to 6-inch stem, these differ somewhat in their make-up, that of *Aucheri* being somewhat downy, while *bellidifolia*'s is smooth on the outside. It makes little difference which you choose, for you will have a splendid garden plant in any of them—one that asks for little care, except that they all thrive best in a stony soil with some leaf mold to hold moisture and, in the climate of the middle west, that they will respond more heartily if they are shielded from the afternoon sun. Their flowering period falls in May and June, and *tridentata* usually puts on a more restrained performance in autumn.

The plant which one often sees in lists as *C. carnica* is, according to all that I have grown, a small version of the common harebell. If you have a place for a 6-inch *rotundifolia*, the present plant will answer the purpose, being no lovelier than the latter and no more difficult to grow.

I have had some success with *C. cenisia*, but nothing to brag about, and mention it now in the same spirit that I should start to write about the other unaccountable alpine. According to one mountain climber in the Alps, "It is a creeping species, from the very high moraines, where it is found among the last vegetation of all, making mats of blossom between the gray stones." Gray stones would naturally lead one to the conclusion that it is a limestone plant, and in practice that is found to be the case, limestone and constant moisture at the roots being two requirements in its culture. That and some shade may make it contented for a while, but, according to my experience, one has no reason to become optimistic, for it may, without any apparent cause, make up its mind to do the disappearing act. The only advice I am able to offer is to ask you to try the plant under your local conditions, giving it what has been outlined in the foregoing. If it behaves well, you will have a really lovely mat-making plant, with an abundance of small, rather flat cups of light blue during June. If it does prove permanent, rapid increase may be had by division of the mats.

I have not arrived at the point of getting seeds of the *C. collina*, which has been given so much space lately in our seed catalogues, where it is described as "an outstanding new perennial," but from the descriptions I suspect it is the same as the one I had ten years, or more, ago under the same label. If so, it is one of the best of the medium-size species, with tufts of stalked, oval-pointed, gray, downy leaves, from which spring a number of 10-inch stems, each carrying up to ten violet-purple bells during part of June and July. Like many of the species from the Caucasus region, it is easily grown in a light soil in sun or light shade, but unlike many from that section of monocarpic bellflowers, it is a true perennial. The plant should be good property in any nursery.

The next one, *C. Choziatowskyi*, is included here on hearsay as something to look forward to. I know nothing about it except that it is described as making rosettes of tiny, jagged leaves and having a multitude of small deep purple flowers on 4-inch stems all summer. It is also said to be easy, but that refers to English conditions and the plant may do differently in our climate. My informant tells me that seeds will soon reach dealers.

Much that has been said and written about *C. Elatines* has, I am convinced, been based on false material, for it is notoriously confused in gardens and nurseries. The true plant, which comes from the Piedmont Alps, is to be placed, according to my judgment, about midway between the extravagant praise of Correvon, when he calls it "the most exquisite of rock campanulas," and the downright condemnation of Farrer, when he says that "when all is said and done, I do not think either *Elatines* or *elatinoïdes* really has any conspicuous merit among campanulas." However, I can agree with anyone who says that the plant is scarcely worth cultivating if it needs as much care elsewhere as it does here. A glabrous form as well as the ordinary downy one is mentioned by some, but as I have had only the latter I cannot speak on that phase. If a glabrous one were available, it

might prove easier than the hairy one, which collects every bit of moisture in the vicinity until it rots from oversaturation. When it does bloom, its deep blue stars in a rather ragged raceme are not, at least in my opinion, quite up to what is likely to be expected from the extravagant praise given the plant in some quarters. We find a similar plant in *C. elatinoides*, though it is more woolly than the former and therefore harder to keep in damp weather, and it is twice as tall as the four inches of *Elatines*.

Much ink has been used on the question of *C. excisa*'s soil requirements, some holding with Correvon and Farrar that it is an acid soil plant, while others, including Clarence Elliott, maintain that it is not a lime-hater. Robert Senior, one of America's best authorities on *complanata*, takes a middle course by saying that it "probably dislikes lime." I do not speak from extended experience, for the plant is quite intractable in my locality, but what I have observed leads me to think that a lime-free soil makes other cultural problems easier of solution. Started in a neutral or at least slightly acid soil and with the presence of root moisture throughout the growing season, the plant might do well in the cooler sections and perhaps could be made to perform in the warmer parts if given some shade. I have only been able to flower it in pots and then only when it was divided every year. It is a little beauty, with spatulate root leaves and many 2-inch stems, each carrying one pale, lilac-blue bell during June. Where it can be grown successfully, it should be made a part of every neighborhood nursery. It is easily separated from any other bell-flower by the round hole at the base of each corolla lobe.

*C. fenestrellata* is one of four or five closely related plants which may be, to save space, combined in one paragraph. The others in the group include *garganica*, *istriaca* and *Barbeyi*, all being among the best of bellflowers for general use in eastern United States. There is some choice to be made among them, I suppose, but it is not for me to decide, as all have something to recommend them, not the least of which is their ease of culture in a gritty, leafy soil in full sun or part shade. *Fenestrellata* has a more slender stem than *istriaca* and its flowers are pale lilac with recurved tips. Using *garganica*, because it is well known to all growers, for comparison,

it may be said that *istriaca* is a hairy, gray-leaved form with flowers of similar color, though perhaps somewhat larger, while *Barbeyi* has darker leaves and flowers of a deeper violet shade. Make friends with them, knowing that they will make adequate returns in beauty and sales for the time devoted to them and that they will give satisfaction to your customers. They are perhaps best grown from seeds sown in early spring, though selected plants may be multiplied from cuttings taken as the plant comes into growth, by pulling away each tuft with a heel of the old root if possible and rooting them in the usual way. Incidentally, there is room and an opportunity for improvement in this class—improvement in color as well as size of flower and length of the blooming period.

#### JOHN CHANDLER GURNEY.

John Chandler Gurney, United States senator-elect from South Dakota and a brother of Charles H. Gurney, president of the House of Gurney, Inc., was born at Yankton, S. D., in 1896. His father, Deloss B. Gurney, was at that time secretary and treasurer of the Gurney Seed & Nursery Co. and later became president of the House of Gurney, Inc., the successor firm.

Mr. Gurney received his education in Yankton and entered into the seed and nursery business with his father, becoming secretary and treasurer of the House of Gurney. During the World war he en-

listed in the army and saw service in France. Since the war he has been active in the American Legion, particularly in the rehabilitation of the war injured. He also served as head of radio station WNAX, operated by the House of Gurney, helping in the relief of stricken areas during the drought years.

Mr. Gurney was defeated in his first campaign for the Senate in 1936 by 6,000 votes, but won the recent election by more than 14,000 votes. Known widely by his nickname, he was acclaimed in a popular slogan, "Chan's the man!"

Because of his thorough knowledge of the seed and nursery business, the trade will have a representative in the Senate who fully understands its problems.

Mr. Gurney left Yankton December 15 for Washington, D. C., to prepare for his new duties, which begin January 3.

#### APPLY FOR TAX REFUND.

Some nurserymen who have discontinued payment of social security taxes because of the ruling that nursery field labor is agricultural have failed to make claim for refunds, thinking the sum to be obtained not worth the labor involved in gathering and presenting the necessary data. Such claims are important in establishing the agricultural classification of nurserymen in the records of the social security authorities, according to Miles W. Bryant, secretary of the Illinois State Nurserymen's Association, and should be filed at once in order to forestall legal action to collect taxes apparently delinquent.

Early action is especially necessary, since in some states claims for refunds for taxes paid during January, 1938, for the fiscal year of 1937, must be filed on or before January 31, 1939, as there is a provision in the law limiting the legality of such claims to one year from the due date.

#### ENLARGE NURSERY.

The old Buffum estate, Middletown, R. I., comprising a residence, green-houses and seventy-four acres of land, has been purchased by Charles Kempenaar and Frederick A. Christensen, of Christensen & Kempenaar, increasing their holdings to 150 acres. The property had been purchased a few years ago by Fred W. Smythe and used for nursery purposes.



Senator John Chandler Gurney.

# From Scientific Sources

*Facts of Value to Nurserymen Found in Recent Bulletins on Research Work Being Done at Various State Agricultural Experiment Stations*

## CROWN GALL EXPERIMENTS.

Recent experiments have shown that there may be a correlation between the soil pH and crown gall, according to a report of E. A. Siegler, of the United States horticultural station, Beltsville, Md., in Phytopathology. In the relatively acid soil of Willamette valley, in Oregon, where liming is practiced for certain crops, almost no crown gall infections were found in the nurseries. However, in the Sacramento river valley, in California, where the soil is generally alkaline, crown gall infections were found to be abundant.

Tests on rows of seedlings planted on acid soil with some of the rows treated with lime disclosed that those rows treated showed approximately thirty-two per cent of the seedlings infected, while the seedlings not treated with lime showed an infection of only four per cent.

However, until more information is available, nurserymen are cautioned about treating their soils for the control of crown gall.

## FRUITING DWARFS TREES.

Recognizing the fact that fruit bearing has a dwarfing effect on trees, W. H. Upshall, of the Vineland horticultural experiment station, Ontario, Canada, made tests to determine the dwarfing effect.

Two Melba, two Rhode Island Greening and two Delicious apple trees were selected for the experiments. In the autumn of 1931 the trunk measurements of the trees were taken, as well as the measurements of a check group of the same kinds of trees.

In the summer of 1932 the blossoms were removed from one tree of each variety, while the other trees were allowed to fruit in the normal way. The fruiting trees averaged sixty-nine pounds of fruit over a 6-year period.

Measurements six years later showed that the bearing of fruit had caused a reduction of approximately twenty-seven per cent in the area of the cross section of the trunk.

The area of the nonfruiting trees November, 1931, was two and five-

tenths square centimeters and in November, 1937, the measurement was seventy-eight and eight-tenths square centimeters, while the fruiting trees measured two and six-tenths square centimeters in November, 1931, and six years later they measured only fifty-seven and five-tenths square centimeters.

While this difference is noticeable, the greatest difference is in the shape of the trees. Fruit bearing results in a more open tree and does much more to shape the tree than can be accomplished by early pruning.

## TREATING DORMANT SEEDS.

A treatment by which seedlings of all *Crataegus* species may be obtained on a large scale the first spring after the seeds ripen is told by Florence Flemion in the July-September issue of Contributions from Boyce Thompson Institute.

Seeds of most species of *Crataegus* have dormant embryos, which must be subjected to a period of low temperature in a moist medium before germination occurs, and some species have a stony seed coat, which must be softened before the after-ripening treatment.

In the experiments it was found that the effects of the hard seed coat can be removed by treating the seeds with concentrated sulphuric acid, combined with a short period of high temperature, or by a period of several months at 21 degrees centigrade in a moist medium.

Freshly gathered seeds that were to be treated with the acid were allowed to dry before treatment, as the acid will penetrate moist seeds and injure the embryo. The amount of acid recommended for use in this treatment was equal to five times the volume of the seeds to be treated. The mixture of acid and seeds was stirred every fifteen minutes. Immediately after the treatment the seeds were removed and washed with running tap water and then kept in a large volume of fresh water for at least an hour to remove any remaining acid.

When plantings were made in the

greenhouse, a medium of equal parts of sand, peat moss and composted soil was used. The seeds were then planted in flats which were kept at various controlled temperatures, or placed in coldframes either open, covered with a board or mulched and covered with a board. The results showed that *Crataegus cordata* germinated readily in flats that had been outside over the winter or in controlled low temperatures, while seeds of *Crataegus rotundifolia* did not germinate under any of these conditions.

Seeds which were found to respond to several months at low temperatures were *Crataegus cordata*, germinating within four to six months at 5 degrees, and *Crataegus coccinea*, germinating in four and one-half months in moist peat moss at 5 degrees.

*Crataegus mollis*, *Arnoldiana*, *to mentosa*, *Carrieri*, *sanguinea* and *Oxyacantha* produced better germination results if given some treatment prior to after-ripening. This treatment consisted of soaking in sulphuric acid for varying lengths of time and placing in a moist medium for twelve weeks at 26 degrees, followed by a like period at 5 degrees.

Seeds of *C. flava*, *punctata*, *Crusgalli* and *rotundifolia*, if planted outdoors, will not germinate until the second spring. However, periods of high temperature in soil will increase germination.

The experiments showed that by combining the acid treatments with short periods of high temperatures, seedlings can be obtained at any desired time, but for maximum germination it is necessary that the seeds be in a moist medium during the periods of high temperature.

JOHN HOLMASON, owner of the Pacific Coast Nursery, Portland, Ore., will attend the eastern trade meetings this month. Last summer, when he was following behind a tractor, a limb flew back and damaged his right eye so badly that, after about a month in the hospital, the eye had to be removed. The accident and consequent expenses caused a setback in his business, but he retains his old optimism.



# Letters from Readers

## TAXUS INTERMEDIA.

The so-called *Taxus intermedia*, which your December 1 issue states to be of obscure origin, seems, undoubtedly, to be a form of *Taxus cuspidata*. Also this yew, which is now being offered in both spreading and upright habit forms, has a cloudy past as regards its naming only.

While no one seems to know just who coined the name of *intermedia*, the story of the introduction of this plant into American gardens is quite clear. If you were to question Jacob Von Heiningen, South Wilton, Conn., he would tell you how he first noticed this plant in a Netherlands' nursery. Also how, upon discovering that the whole stock had been sold to a New York nurseryman, he later bought up all of the plants after their arrival in America and subsequently distributed them under no particular name. Since that time, someone has applied the aptly descriptive term of *intermedia*, which, of course, is not to be confused with *Taxus media*.

Speaking of *Taxus media*, there seems to be plenty of indication at the moment that out of this group of hybrids between various varieties of *Taxus cuspidata* and *Taxus baccata* will come clons which will prove themselves to be valuable substitutes for the Irish yew of Florence court. Added weight may be given this opinion when it is remembered that at least a few of these hybrids have the Irish yew as a female parent.

Richard M. Wyman,  
Framingham, Mass.

## V. BURKWOODII FOLIAGE.

In your December 1 issue we note L. C. Chadwick's remark: "I am convinced that *Viburnum Burkwoodii* will become an outstanding favorite as soon as it is better known."

One interesting item about this plant which we have never seen mentioned, in this country anyway, is that a certain proportion of its leaves assume intensely brilliant autumnal tints. In evidence of this we are enclosing a few samples and hope that the color will not lose its brilliancy en route. [They did not. —Ed.]

W. B. Clarke,  
San Jose, Cal.

## BRINGS IN CUSTOMERS.

Our nursery is located one-half mile from the main road. We use signs to point the way, but when we saw the "Cushions" we immediately decided that here was an autumn drawing card worth heavy thinking. We planted a great display of the various colors about our signposts and lined the roadsides with them. The manner in which the idea succeeded is told in our increased sales for that period. Passers-by who had never before taken the trouble to look in were attracted by the beautiful display of chrysanthemums which did not look like chrysanthemums, but rather like azaleas in bloom in massed plantings.

Here is what we did: We took clumps in early spring when the frost was out of the ground, divided them to small divisions and planted them eight feet apart each way, except on the roadside, where we had only space about five feet wide in which to plant. Here the plants were spaced eight feet apart.

We prepared the soil quite rich with well rotted manure for these fast-growing plants. We skipped the shaded spots, as the Cushions were known to like the full sunlight.

Rooted cuttings of the same kinds and colors were planted about six weeks later in the intervals, making the planting four feet apart. The result was that, when part of the plants were about through blooming, the later plantings were just getting in good color.

When planted in rich soil and well spaced, these plants will often attain four to five feet in diameter. The red variety is useless for this display purpose, as it is late in blooming and is not so profuse as the other colors. The colors to use are the white, pink, bronze and yellow.

We have proved to our satisfaction that these plants will stop the speeding public and bring them in. They usually buy some plants and shrubs when we get them in.

We believe a display of Cushions properly planted will add a good deal to every nurseryman's chances of catching those passing sales.

A Cushioner.

## SURVEY OF TAX BURDEN.

While it is well known that the tax load on business has grown heavier in recent years, information is lacking as to which industries carry the heaviest burden, whether taxes bear most heavily on small, medium or large concerns, or how much tax is federal, how much state and local.

A nation-wide survey now being made by Dun & Bradstreet, Inc., will yield answers to these questions, in addition to continuing last year's survey of business trends—estimates of 1938 sales volume in various trades and industries, and inventory investment at the close of the year.

Early in January, two million questionnaires will be mailed, one to every business concern listed in the Dun & Bradstreet's reference book. Every manufacturer, wholesaler and retailer in the country is asked to give his experience. The questions have been prepared with the advice of leading businessmen, economists and tax experts to yield a maximum of information with minimum effort on the part of contributors.

The results of this survey for the nursery trade and related lines will be published in this magazine as soon as the research and statistical division of Dun & Bradstreet can make them available. Readers are urged to cooperate in order that the data for this trade may be comprehensive and accurate. If you have mislaid your questionnaire, another copy will be furnished you by the nearest Dun & Bradstreet office.

## SEASON'S GREETINGS.

A box of big Delicious apples from Stark Bros. Nurseries & Orchards Co., Louisiana, Mo., was enjoyed at Christmas.

A letter opener from the Milton Nursery Co., Milton, Ore., and an automatic pencil from the Mount Arbor Nurseries, Shenandoah, Ia., were useful tokens.

A package of winter-blooming bulbs will prolong the season's greetings of the Gardner Nursery Co., Osage, Ia.

C. W. MOORE, a nurseryman of Memphis, Tenn., who was stricken with a heart attack December 18, was reported to be in fair condition at the Baptist hospital.

# Kansas Nursery School

*Propagation of Evergreens, Importance of Soil Reaction, Landscape Design and Methods of Insect Control Discussed at Second Annual Kansas Nursery School*

About seventy-five persons from Kansas, Nebraska and Missouri registered at the Kansas State College, Manhattan, December 12, for the second annual school for nurserymen sponsored by the department of horticulture coöperating with a committee from the Kansas Association of Nurserymen.

After a welcome by W. F. Pickett, newly elected head of the department of horticulture, Lloyd M. Copenhaver, extension specialist in landscape gardening, told of the extension program as a whole, giving a history of its beginning in 1914, its purpose, the methods used and its policy. He dwelt at some length on his own sub-project, landscape architecture, the only medium through which Kansas farm people receive organized educational material on landscape appreciation and the planting and care of trees, flowers and shrubs.

## Propagating Evergreens.

C. A. Chandler, of the Chandler Landscape & Floral Co., Kansas City, Mo., gave a practical and interesting account of the propagation of evergreens.

Before the United States government put an embargo on the importation of nursery stock from other countries a large part of the lining-out stock of evergreens was imported from Holland, France and England. When this importation was no longer possible, American nurserymen were forced to do their own propagating. Evergreens that come true from seeds and those grown readily from cuttings offered no particular problem, but certain varieties, such as Koster's blue spruce and Juniperus Canaertii and Schottii, which do not come true from seeds and cannot be satisfactorily propagated from cuttings, had to be grafted, and nurserymen had to learn how to do it. Those who were skillful at the work sold their grafts at high prices, getting as much as 60 or 75 cents apiece, but as knowledge of the proper technique spread the average price dropped to 20 or 25 cents.

Nowadays even some varieties

which will grow readily from cuttings, such as Pfitzer's juniper and Berckman's golden arbor-vitæ, are grafted because the grafts will produce merchantable trees much sooner than the cuttings, and the saving of a year or two is important, especially to those who cater to a high-priced market.

It has been found, Mr. Chandler said, that evergreens should be grafted on understocks of the same genus, juniper on juniper or spruce on spruce, etc. Some other combinations are possible, but not satisfactory, as the understock does not develop.

Two-year-old understocks, one year in the seed bed and one year in the transplant frame, are usually employed. Understocks are potted in October in 2½-inch rose pots and put into a cool greenhouse. Grafting begins after the plant has shown considerable root activity, which is usually about six weeks after potting. The usual method of grafting is known as the bark graft, in which the scion is trimmed to a wedge shape and inserted in an incision in the bark close to the base of the understock. Most nurserymen now use rubber strips, instead of string or raffia, to hold the scion in place. The rubber is removed at the time the graft is planted in the field, to prevent girdling. After the grafts are made up, they are placed in a propagating frame at an angle of 45 degrees. The entire pot is covered with moist peat moss and the frames are kept at a temperature of 75 to 80 degrees for about thirty days, by which time the graft should be well callused. The top of the understock is then removed, and the graft kept in a cool house until spring.

## Soil Reaction.

Major Paul S. Bliss, Kansas City, Mo., explained the theory underlying the social security law, keeping it on general terms with no specific reference to the nursery industry.

R. I. Throckmorton, of the department of agronomy, discussed the relation of soil reaction to plant growth. He pointed out that the availability of nutrients in the soil is influenced

by the amount of acidity. Soil acidity indicates a lack of important elements, such as calcium and magnesium, and also influences the activities of bacteria in the soil. Most plants grow best under conditions of neutrality or slight acidity.

Mr. Throckmorton cautioned his listeners that in making tests of soil reaction an agent should be used which will show the degree of alkalinity. Many tests will show only the amount of acidity, but give no information on alkalinity.

Most of those present went to lunch at Thompson hall, where H. T. Hill, of the department of public speaking, gave a highly entertaining serio-comic talk on "The Big Apple of Your Business," the theme of which was to treat your customers so that they will want to come back.

The afternoon session began at 1:30 with Ralph Ricklefs, president of the Kansas Association of Nurserymen, presiding.

D. B. Creager, of the department of plant pathology, gave a timely talk on the newer elm diseases, including the Dutch elm disease. The only positive way of diagnosing an ailing elm is by laboratory test, as some of the less malignant diseases have symptoms similar to the Dutch elm disease, he pointed out.

## Landscape Design.

L. R. Quinlan, of the department of horticulture, emphasized the importance to the nurseryman of some knowledge of landscape design. Mr. Quinlan evaluated landscape design in this way: Fifty-one per cent design for use; thirty per cent knowledge of plant material, and nineteen per cent taste for design.

Mr. Quinlan's principles of design are simplicity; space relations (relation of one area to another); dominant features, characteristics of plants, form, texture and color, and appreciation of nature.

In the landscape design for the house in modern style Mr. Quinlan advised the use of unspectacular material and cautioned against over-planting.

George A. Dean, of the depart-

ment of entomology, discussed the red cedar scale and other injurious insects. The red cedar scale, which is only one-third as large as the San José scale and was first found in Shasta county, California, has not been found in any Kansas nursery. It is controlled by oil sprays. Mr. Dean cautioned Kansas nurserymen to keep a sharp lookout for the white-fringed beetle, which has recently appeared in southern states and damages every growing thing.

F. P. Eshbaugh, in charge of the nurseries at Fort Hays experimental station, Hays, Kan., and L. R. Quinlan held a panel discussion on some ornamentals, agreeing that more extensive use should be made of plants native to the localities where they are to be used. Both men told of new plants which are being tried out at their respective institutions.

J. W. Zahnley, of the department of agronomy, was the last speaker, his topic being lawns in Kansas. He discussed the four kinds of grasses most suitable for lawns in different sections of the state, buffalo, bermuda, bluegrass and bent, and gave directions for the preparation of the ground, seeding and lawn maintenance.

#### Exhibition.

An exhibition in Dickens hall by students of the horticulture department with Linus Burton, president of the Horticulture Club, director, and Sam Decker, faculty supervisor, was enjoyed by the nurserymen attending the school. It was divided into five groups, vegetables, floriculture, forestry, fruits and nuts and landscape gardening. Nurserymen had contributed specimen plants for display, including a number new to the middle west, particularly broad-leaved evergreens which are just coming into their own in this region.

The feature of the landscape exhibit was a formal garden with a pool planted with evergreens. In the forestry exhibit was a section of a burr oak log, cut recently in Miami county, whose ring count shows that the tree was a sapling when the Pilgrims landed at Plymouth Rock. The fruit exhibit included two varieties of jujube, the Li and Suh Men, which were grown in the college orchard on trees about 8 years old, which have been found reasonably hardy. This is the farthest north this fruit has been known to grow, although

it has been growing for ten or fifteen years at Garden City, which has a much higher altitude.

The growth in interest as shown in increased attendance, and the closer understanding engendered between the college and nurserymen of the region by this school, give assurance of its continuation.

#### LANDSCAPE MEETING.

The Association of Kansas Landscape Architects met at Manhattan, December 11.

The noon luncheon, held at the Green Shutters and attended by about thirty persons, was followed by a business meeting in Dickens hall, Kansas State College.

The speakers were Dean L. E. Call, of the college, and J. A. Rupp, forester with the soil conservation service, Salina, Kan., formerly with the state park service in Pennsylvania. Dean Call outlined the history of agricultural research at Kansas State College, pointing out that the results have repaid the people of Kansas many times the original cost. Mr. Rupp spoke on the state park program as carried on in Pennsylvania.

At the business meeting the following officers were elected: President, Harold S. Crawford, Willis Nursery Co., Ottawa, Kan.; vice-president, Franklin T. Rose, Kansas state highway commission, and secretary, A. C. Elson, University of Kansas.

The next meeting will be held in the summer at Lawrence, the exact place to be announced later.

#### SOUTHWESTERN NOTES.

An apple-judging contest held at Manhattan, Kan., December 12, was won for the fourth consecutive time by a team from the Kansas State College. The team was composed of Herman Reitz, Belle Plaine; Melvin Peterson, Riley, and Emil Kientz and Dale Johnson, Manhattan. The University of Missouri placed second, Oklahoma A. & M. third and Texas Tech, fourth. The trophy, a bronze apple, was made in the physics department at Kansas State College.

W. L. Russell, Albuquerque, N. M., is starting a nursery.

Thomas Blackburn is entering the nursery business at Topeka, Kan.

J. C. Bateman, box 3, Tulia, Tex., is starting a nursery at that place.

There has been a change in the Clarke-McNary policy in Kansas, announced by the Kansas State College, Manhattan. In the future the distribution of windbreak and shelter belt material under this act will be only from the branch experiment station, Hays, Kan. Ornamental stock will no longer be distributed.

#### BEETLE QUARANTINE.

C. H. Brannon, North Carolina state entomologist, warned nurserymen that they faced a federal quarantine of the state unless they adopted measures to control the Japanese beetle.

At a meeting of representatives of the United States bureau of entomology and plant quarantine and state department of agriculture officials at Raleigh, December 10, the warning of the possible quarantine was made.

The infestation has caused serious economic losses to nurserymen, according to Mr. Brannon, and a quarantine will require costly control measures.

More than 5,800 traps were set throughout the state last spring and the following counties were placed under state quarantine: Winston-Salem, Greensboro, Salisbury, Spencer and Charlotte.

#### WHITE-FRINGED BEETLE.

A new quarantine caused by white-fringed beetle infestations in areas in Alabama, Florida, Louisiana and Mississippi, where this pest has become established as determined by extensive surveys during the past field season, was announced by the Secretary of Agriculture, December 15. Under the provisions of this quarantine, which becomes effective January 15, 1939, the interstate movement from the regulated areas of specified commodities is subject to inspection and certification requirements.

Movement of such materials as balled nursery stock, soil, compost and manure, as well as potatoes and sweet potatoes, is regulated throughout the year.

Bare-rooted nursery stock and other plants, beans, peanuts in shells, cotton, hay and other roughage, lumber and other unmanufactured wood, building materials, used machinery, junk and similar articles are regulated part of the year.



The regulated areas comprise parts of Conecuh, Covington, Geneva, Mobile, Monroe and Wilcox counties in Alabama; parts of Escambia, Okaloosa and Walton counties in Florida; two entire parishes in Louisiana and parts of two others, all in the vicinity of and including the city of New Orleans as well as East Baton Rouge and St. Tammany parishes, and parts of the Mississippi counties of Harrison, Hinds, Jackson, Jones, Pearl River and Stone.

#### H. M. EDDIE.

H. M. Eddie, member of the arrangements committee for the 1939 convention of the American Association of Nurserymen, at Portland, Ore., was born in Scotland, and emigrated to Canada twenty-nine years ago. Following in his father's footsteps, he decided to take up horticulture as his lifework and began his work in British Columbia nurseries. Fifteen years ago, with his three sons, he started in business himself.

The Eddie Nurseries, Inc., is now operating the largest general nurseries in British Columbia and the largest rose nursery in Canada. Thirteen years ago the business was extended into the state of Washington, at Mount Vernon, where the firm is now growing roses.

Much of Mr. Eddie's time is spent in the United States, and in 1937 he served as president of the Pacific Coast Association of Nurserymen, and he was a delegate to the 1938

A. A. N. convention in Detroit. His Scotch ancestry and his ability as a bagpipe player make fitting his dress as pictured.

#### CONTRACT HEARINGS.

Hearings being held by the Massachusetts attorney general on storm damage contracts that were awarded without competition to firms outside of the state and for amounts greatly in excess of the actual damage are nearing a close at the statehouse, at Boston.

Due to the efforts of the Massachusetts Taxpayers' Association, assisted by the Massachusetts Nurserymen's Association, a thorough investigation of all contracts, which were mainly awarded without any bidding, is being made. Governor-elect Saltonstall has announced that all payments will be held up, with cancellations and drastic reductions in many cases. Indications are that several state officials may be discharged from office.

Members of the Massachusetts Nurserymen's Association testifying at the hearing were Harlan P. Kelsey, Kelsey-Highlands Nursery, East Boxford; Lloyd Hathaway, Littlefield-Wyman Nurseries, North Abington, and W. N. Craig, Weymouth.

The hearing has been given wide publicity in the various newspapers of Boston and Massachusetts.

#### FIRE AT KALLAY BROS.

Damage estimated at \$30,000 was caused by a fire which destroyed a range of eight propagating houses and a 2-story potting shed at the nurseries of the Kallay Bros. Co., Painesville, O., December 27.

The fire, which was caused by an overheated chimney, was fanned by a 45-mile gale and completely destroyed the buildings in about forty minutes. The blaze was discovered by the night watchman at about 7:30 p.m., but before the fire department could arrive the buildings were completely enveloped in flames and nothing could be done to save them.

The houses were filled with rooting cuttings and grafting understocks. The loss was covered with only a small amount of insurance.

THE Burrington's Nursery Greenhouse has been established by K. Burrington Davis at Grand Blanc, Mich.

## ANALYSING ADVERTISING

#### VII.

To embark on a program of consistent advertising, as recommended in the preceding notes, the nurseryman would do well to set aside a definite sum to be spent through the year, or include an item for advertising in his budget if he makes one. Without such definite sum set aside, he may find initial expenses heavier than he anticipated, so that he is tempted to curtail drastically later on, when the returns are likely to exceed those at the outset.

How much should the sum be? That depends upon the size and type of business done. Retail merchants and large corporations frequently proceed upon a percentage basis. A nurseryman who has not done much advertising before would do well to make the percentage small, as he would restrict any investment in a new enterprise. If the returns warrant, they will bring in the funds for an increase in the appropriation. But the danger lies in overenthusiasm at the outset, leaving room for disappointment later.

Have you had the experience of putting on a salesman of whom you had high hopes, so much so that you were ready to pay him a high rate to begin with? Your natural judgment led you to restrain your enthusiasm until he had proved himself, and when his initial orders were not up to your expectations, you complimented your caution. When his later orders gave better basis for your early enthusiasm, you complimented your judgment. So you were doubly pleased.

Just so, in planning a program of consistent and continuous advertising, you are putting on a new salesman. You are going to pay him for a time, in the expectation that he will produce satisfactorily. It is important that he be given time to make good, and important that you be given time to break him in; i.e., to make use of his abilities in ways best suited to your business.

As a salesman that has made good for other nurserymen, advertising deserves a place in your merchandising plans for the new year. Allot a sum for that purpose which will permit this selling agent adequate trial.



H. M. Eddie.

# New Books and Bulletins

## PLANT HORMONES.

Those who may be interested in knowing the scientific background of the developments which are bringing plant hormones closer to the lay mind will find a useful book in "Phytohormones," by Dr. F. W. Went, professor of plant physiology at the California Institute of Technology, and Dr. Kenneth V. Thimann, assistant professor of plant physiology at Harvard University, recently published by the Macmillan Co. at \$4. Not only does this 294-page book review the history of the development, most of which has been in a current lifetime, and present a systematic description of current techniques and chemical reactions, but it also includes a bibliography of thirty-three pages, listing about 600 references. The recent interest in the subject is exemplified by the fact that references include seventy-seven publications dated 1936.

The book is written from the point of view of workers in the field and will be of most value to those who may wish to trace the trend of the research done and the possibilities it unfolds.

## COMMERCIAL FERTILIZERS.

The second edition of "Commercial Fertilizers, Their Sources and Use," by Dr. Gilbeart H. Collings, acting professor of agronomy at Clemson Agricultural College, includes much additional information on soil fertility, crop nutrition and fertilizer manufacture, because of the numerous contributions to knowledge of these subjects since the first edition was published four years ago.

Primarily the book was written as a textbook for use in agricultural colleges. As a thorough review of a subject which is of increasing importance to those engaged in growing crops, the book is of interest for its historical matter and information as to the sources and uses of fertilizer materials. Because the use of chemical salts as fertilizers has developed only within the past eighty years, the rapid rise of the field is apparent.

After an opening chapter on the origin and development of commercial fertilizers, there are separate chapters on sodium nitrate, ammonium sulphate, synthetic nitrogenous

fertilizers, organic nitrogenous fertilizers, mineral phosphates, bone phosphates, superphosphates, potash and miscellaneous fertilizers. Extensive chapters on the purchase, use and application of fertilizers relate the underlying principles.

This 456-page book is bound in a blue washable fabric and sells for \$4, published by P. Blakiston's Son & Co.

## SHADE TREE CONFERENCE.

The proceedings of the fourteenth national shade tree conference, held at St. Louis, Mo., August 31 to September 2, have just been published in a 192-page book.

It includes the various papers read at the conference and verbatim reports of discussions.

Among the papers of interest to nurserymen are those on safety practices, tree moving, the effect of some synthetic growth substances in the root development of transplanted trees and the use of trees in landscape composition.

Karl Dressel, of the Michigan State College of Agriculture, was reelected president; E. N. Cory was elected vice-president to succeed Richard P. White, who had resigned from that position because of his duties as executive secretary of the

American Association of Nurserymen, and L. C. Chadwick, of Ohio State University, was elected secretary and treasurer.

The 1939 conference will be held at the Hotel Astor, New York, August 22 to 24, 1939. Norman Armstrong, White Plains, N. Y., is local chairman.

## ROYAL SOCIETY BOOKS.

One of the most interesting books of practical value met in a long time is "Ornamental Flowering Trees and Shrubs," the report of the conference held by the Royal Horticultural Society last April. The cloth-bound volume of 272 pages includes many full-page plates in black and white of the subjects discussed. The papers presented covered various groups of flowering trees and shrubs, many of them as well known in this country as abroad, though not all. In some cases verbatim reports of the ensuing discussion appear, bringing out further practical comments.

Other valuable publications of the Royal Horticultural Society last year included the Lily Yearbook, of 180 pages, containing more than a score of contributions from various parts of the world, and a similar volume, the Daffodil Yearbook, of 144 pages, both containing numerous illustrations and bound in a heavy paper cover.

The monthly journal of the society

## See Verhalen ROSES, SHRUBS and EVERGREENS

At Booth No. 7, Illinois Nurserymen's Convention  
Hotel LaSalle, Chicago, Ill., January 10 to 12, 1939

Write for list and come prepared.

## VERHALEN NURSERY CO.

Scottsville, Texas

L. C. Ihrke, Sales

Geo. F. Verhalen

See display at Western Association Convention, Kansas City, Mo.,  
January 3 to 5, 1939. A. P. Longland, Sales.

regularly brings comments of similar character, reports of trials and organization proceedings. The Royal Horticultural Society office is Vincent Square, S. W. 1, London, England.

#### BULLETINS RECEIVED.

"Single and Japanese Peonies in the Illinois Trial Garden," bulletin 447 of the University of Illinois, by F. F. Weinard and H. E. Dorner, dated November, 1938, is a report of the work being carried on by the department of horticulture of the University of Illinois in conjunction with the American Peony Society, the Netherlands Society of Peony Growers and various dealers. The bulletin contains a list of Japanese and single peonies, with a detailed description of each variety. There is also a list of semidouble and double peonies, as well as a list of varieties that often cause confusion in nomenclature.

Southern nurserymen who are interested in research work on the control of root-knot nematodes will find of particular interest the Plant Disease Reporter, supplement 109, dated December 15, 1938, issued by the United States Department of Agriculture, as it contains a report of the proceedings of the root-knot nematode conference, held at Atlanta, Ga., February 4, 1938.

"Random Notes on Fruit Tree Rootstocks and Plant Propagation," by H. B. Tukey and K. D. Brase, issued by the New York agricultural experiment station as bulletin 682 under date of July, 1938, deals with experiments of various methods of propagation and the use of rootstocks for fruit trees. Among the topics discussed are the use of peat moss in planting fruit trees, behavior of Malling apple rootstocks as lining-out stock, shortening the period required to produce budded fruit trees in the nursery, coverage of fruit tree seeds with peat moss and height of budding and growth of apple trees in the nursery.

"The Use of Fertilizer in the Coniferous Nursery," by Herbert A. Lunt, bulletin 416 of the Connecticut agricultural experiment station, issued October, 1938, deals with research on the response of coniferous nursery stock, chiefly red pine, to soil treatment with fertilizers. The studies were made in both field work and experimental frames at the stations. The general

## TAXUS CUSPIDATA CAPITATA UPRIGHT YEW



Orders filled with fine, bushy stock like those shown in photograph.

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Rich, dark green. Hardy. Transplants easily.  
For Hedges. For Specimens. For Foundation Plantings.  
Shears to any form. An excellent Topiary subject.

Priced Right—Send for quotations.

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We grow hundreds of other items, too.

## FINEST LANDSCAPE STOCK

Ready for this winter's planting, covering all of the best shrubs and plants for the south. Also a half million of lining-out CAMELIAS, AZALEAS and GENERAL NURSERY STOCK now ready.

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conclusion was that the growth and removal of nursery stock constitute a considerable drain upon the fertility of the soil and, with continued cropping, this drain may result in a serious situation. Red pine and other conifers respond to the application of fertilizers both in the seedbed and in the transplant bed.

The July issue of the Brooklyn Botanical Garden record contains a list and brief description of the botanic gardens of the world. This is the second edition of a similar volume published earlier. This issue of the record sells for \$2.50.

THE December bulletin of popular information of the Morton Arboretum contains information pertaining to the comparative growth rates of various species of conifers being tested in the forest plots of the arboretum.

ONE of its double numbers, the January issue of House & Garden includes a "gardener's yearbook for 1939," an innovation containing brief instructions for the gardener on many topics. Of particular interest to nurserymen should be a review of the newer perennials, by F. F. Rockwell.





## Charlie Chestnut



### A Vacation in the North Woods

That time when Emil suggested that me and him should go to work and take a vacation up north in the woods in Wisconsin I should have smelled a rat, as the sayin is. When he suggested he might take a notion to give me time off with pay I should have known there was a catch in it. But we live and learn, and as me and Emil has long ago decided to let bygones be bygones, there aint no harm to tell about that trip.

As near as I can remember it was about nine years ago last spring. It must be all of nine years ago because that was in the days when Emil was on good speakin terms with the F&M nursery and he took old Jake along, and he aint hardly spoke civil to the F&M for at least eight years on account of that deal when the F&M cancelled the order for them soft maples. So it must of been all of nine years ago.

It sounded a little farfetched in the first place when Emil spoke to me one day in early May.

"Charlie", he says, "I have got a hankerin to go on a fishin trip up to northern Wisconsin, and I have got a notion to take old Jake and you along. And besides I might do a little business on the side."

Now I knew very well that Emil wasnt no fishermen, in fact I dont believe he ever took a fishhook in his hand, but as I hadnt never been so far from home in my life I says it was O.K. with me if he was going to pay me my wages and also a amount for expenses. I found out afterwards he was taking old Jake so Jake would pay half of the expenses.

So we planned it all out and got ready to start on Monday morning.

Emil says, "We will start at about 2 oclock and maybe we can make it up there by dark. We will go to work and take our own dishes and that and camp out. Probably we can sleep in the truck so we wont have to pay out no amount for a hotel."

I never seen Emil so much as fry a egg in my life so I was not so much in favor of that part. But I

didnt want to throw no cold water on Emil so I didnt say nothin.

Emil said he would load up the truck and we would stop and pick up Jake at the F&M as that was on our way out.

We got under way with the truck and when it got daylight we stopped to have our lunch. I got to lookin around in the truck but there wasnt no fish poles or worms or nothin but only some spades and a lot of burlap.

"What about the fish poles?" I says to Emil.

"We will pick up some hooks," Emil says, "and we can cut some poles after we get there. They aint no use to buy poles," he says.

"What was you aimin to do with the spades and burlap?" I says.

"We might get stuck in the mud," he says "and then we might need a lot of burlap to pack the fish. And then we might take a notion to bring back some trees if we see any good ones."

Then it dawned on me why he was offerin to pay my wages and why he took me in the first place as I know Emil aint noted to be at all big hearted.

The roads was not too good in them days and the truck wasnt no good at all in the first place. It was a long hard ride but around 9 oclock at nite we begin to come to the woods. Emil only had one head-

lite on the truck and it was a weak one and we couldnt see nothing hardly so we pulled off to the side of the road and had a boloney sandwich which was pretty dry but better than none. We couldnt sleep at all on account of the bugs and mosquitoes, but we rolled around till daylight when we was off again to the woods.

I says to Emil, "Where in hell is the woods at and the lake where we are going to camp out?"

"They is a lot of lakes which we will go to before long," Emil says. But it was 3 oclock in the P. M. before old Jake finally took a hand and he says, "We aint had a decent thing to eat since we left home, lets pull up here and cook our dinner."

So Emil took a side road which was no road at all hardly but just a one way lane that went way back into the woods and made a lot of turns and finally come to a end. So we had to stop there.

"I wonder if there is a store near here", I says, "so we can get some hooks and some tobacco and some grub", I says. But there wasnt no store within 30 miles we found out afterward so we had to put up with what we had.

Emil says, "It looks to me, Jake, this would be a good place to pull a few hemlocks and also I seen some arborvitae back there a ways and there might be some birch which I could sure use in the nursery."

Then I could see that I had been took in and there wasnt nothin to the trip but a lot of work and probably we wouldnt get to see no lake or nothing.



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 Maple, Silver, 10 ft. to 6-in. cal.  
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 Oak, Pin, 2 to 4-in. cal.  
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DUNDEE, ILLINOIS

"Bring the spades and the burlap," he says to me, "and we will take a look around here."

"Wait a minute," I says, "maybe this land belongs to somebody and they will not be in favor of you takin up there trees."

"This here is wild land, Charlie, and nobody dont care what you do with it. Probably nobody owns it anyway so dont let that bother you," he says.

We walked a mile or two and found a half dozen or so little feeble hemlocks which we dug up and put in a pile. We worked a hour and got a few birch and a dozen balsams which we put in the burlap under a tree.

It was startin to get dark so we started back to our pile of trees so we could take them to the truck. We kept walkin around but we couldnt find the pile of trees, and the first thing we knew it was dark. We never found the trees again or the truck either that night.

That was the worst night I ever put in during my life in the nursery business. Old Jake fell into a swamp and got soaking wet and Emil wandered into the poison ivy and we was sure in a bad way. When it come daylight we wasnt over 50 feet from the truck. We had to take Emil to the doctor right away and when we got him fixed up we had the first good meal we had had in two days and we all went to a boardin house and slept the rest of the day.

Emil wouldnt give up, so we had to go after the bushes again and after two days we got a pretty good jag of stuff together on the truck. Just as we was coming out onto the highway a fellow come up in a horse and buggy.

"Who do you think you are," he says, "taking trees offen my land. Lets see what you have got on the truck," he says.

"This here is only a few odds and ends that aint worth nothing hardly," Emil says. "We just thinned em out where the trees was a little thick."

"They is a lot of you nurserymen from Illinois coming up here," this fellow says, "taking trees, and I am going to put a stop to it. You can either pay me or else you can take the trees back where you got them."

"What do you figger they are worth?" Emil says.

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Surplus Bulletin just issued. Lower  
prices on Evergreens, Deciduous Trees  
and Shrubbery, Barberry, Thunbergii,  
Green and red; Evergreen, Barberry,  
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BRIDGETON, N. J. Write for catalogue.

"Give me a dollar and I will leave you go," he says. So Emil made a deal for 75 cents for the load and we drove on.

We only went a mile or two when another man come up on a motorcycle and we went thru the same thing again. He claimed he was the owner of the land and the other guy was just going by and took a chance to pick up the price of a little salt pork for his family. We had to pay \$2 this time. I dont think either one of them even knew who the land belonged to but as Emil said we wasnt in no position to argue.

So then we covered up everything we could with burlap and didnt stop to argue with anybody till we come to a farm where Emil went in to see if he was on the right road. Emil couldnt never keep his mouth shut in the right place so he got to braggin to the farmer that he was a big nurseryman from Illinois which had just come up for a load of trees, and that got us into more trouble.

When we got to the next little town the policeman was there standing in the middle of the road and we had to stop.

"What have you gents got in the truck?" he says.

"We are nurserymen out on business," said Emil, "so dont try to stop us."

"Dont you know its agin the law to transport trees and bushes without a certificate of inspection, furthermore lets see your bill of sale for this load," he said. "My brother in law called me a few minutes ago and told me there was a loud mouthed nurseryman headin this way and I better look him over. I will have to run you in," he says.

There was only room in the jail for two people, but as Emil and Jake was doing all the talkin they were the ones to get to sleep in the jail.

That was a good break for me. The policeman says, "I will have to keep you a prisoner and on account of we never had three people at once in the jail before, you will have to come and stay at my place. Only dont try to run away or I will throw out a dragnet for you and the blood hounds will bring you in dead or alive."

The policemen's wife was a nice lady and when she heard my story of how I had been taken in and

didnt get to do any fishin she suggested that her husband should take me out with him as he went fishin every day. We put in a couple of days fishin and sure had a good time. In the mean time Jake and Emil was in jail waiting for the justice of the peace to get home so they could have the trial.

I went to the trial and they sure had Emil calmed down. He made me promise I would never tell about it at the convention and I never did. In fact this is the first time the different nurserymen ever heard the story. Well, the justice of the peace wanted \$100, but Emil finally argued him down to \$50. But the trouble was Emil and Jake only had \$11 between them. So they made a deal to leave me and the truck for security and they would go home and raise the money. They had to agree to pay my board and keep till the money come for the fine. It took Emil over 10 days to get the other money together so I had a great time. We went fishin everyday and didnt do no work for all that time. When I got home Emil tried to hold out my wages for the time I was waiting with the truck, but I threatened to quit and tell it all around at the convention, so at last he paid me and that was the end of the deal.

Emil has never mentioned the trip to me, but last summer at the convention I overheard him telling another nurseryman a thing or two about wild stuff from the woods.

"No sir," Emil was saying, "I wouldnt never go to the woods for stuff with you. They say the stuff is full of bugs and furthermore there aint none of it ever grows. Nurserymen are sure funny, always figger-

ing how to get stuff for nothin. It beats hell how some of the nurserymen figgers things, dont it?" Emil says.

## OBITUARY.

### J. Franklin Meehan.

J. Franklin Meehan, 68 years old, of J. Franklin Meehan & Sons, Inc., Mount Airy, Pa., died at his home, at Germantown, December 16, after an illness of three months.

Mr. Meehan, a well known landscape engineer and architect, was the son of Thomas B. Meehan, founder of the Thomas B. Meehan Co., having had charge of the landscape department of that organization. Later he established his own nursery and landscape service, of which he was an active member until his death.

Edwin Matthews, in a tribute to Mr. Meehan, said, "He possessed that qualification so seldom attained—a true merger of landscape technique and ability together with a rich, wide knowledge of plant material."

Mr. Meehan is survived by two sons, four daughters and a brother. Services were held December 19.

### E. G. Fladwed.

E. G. Fladwed, former secretary of the Jewell Nursery Co., Lake City, Minn., died of a heart attack, December 12. He was 54 years old. Mr. Fladwed had been associated with the firm for thirty-four years, retiring from business last spring.

### Arthur Armstrong Rich.

Arthur A. Rich, Foley, Ala., died December 2 after a brief illness at the age of 81. He operated the Foley Summit Nursery for several years, and

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**THE COTTAGE GARDENS**  
Lansing, Mich.

for the past ten years he had shipped gladioli to various parts of the country. At one time he was president of the Alabama State Nurserymen's Association.

Mr. Rich had served on the city council for many years and was city clerk at the time of his death.

**Julian H. Layne.**

Julian H. Layne, Richmond, Va., died at his home November 23. He had been associated with W. T. Hood & Co. for over thirty-eight years and was head of the landscape department at the time of his death. Mr. Layne was the last of the three men who had assisted W. T. Hood and his son, Kent W. Hood, in establishing the nursery.

He is survived by his widow, Mrs. Jessie Powell Layne; a daughter, Mrs. T. T. Kincheloe, Sturgis, Mich., and his two sons, Herbert B. and Julian R., Jr., Richmond.

**Arthur C. Fleury.**

Arthur C. Fleury, chief of the California state bureau of plant quarantine, died at his home, at Sacramento, early in December. He was 52 years old. He joined the bureau in 1923 and became its chief in 1931. Funeral services were held in Los Angeles December 13.

**DENY WILSON RECEIVER.**

A motion for the appointment of a receiver for C. E. Wilson & Co., Inc., Manchester, Conn., was denied December 9 by Judge Kenneth Wynne, of the Superior court, at Hartford, Conn. Judge Wynne stated that the appointment of a receiver would not help an already complicated situation. The application was brought by Wallace S. Tracy, of Manchester, to whom the corporation owes about \$1,400 on a note. Clarence E. Wilson, head of the corporation, said it owes about \$30,000 and that the Federal Reserve Bank of Boston has had an agent in the office for several months, collecting the receivables because of a debt owed the bank. Several foreclosures against property held by the corporation have been filed. George Lessner appeared for Mr. Tracy and William S. Hyde for the corporation.

AN addition to the office of the R. M. Kellogg Co., Three Rivers, Mich., was completed recently.

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3 to 3½ ft., xxx, B&B.. 3.25 3.00

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# Coming Events

## CONVENTION CALENDAR.

January 3 to 5, Western Association of Nurserymen, Hotel Muehlebach, Kansas City, Mo.

January 4, Association of Kansas Nurserymen, Kansas City, Mo.

January 4, Missouri State Nurserymen's Association, Hotel Muehlebach, Kansas City.

January 9, Georgia State Nurserymen's Association, Atlanta.

January 10, Massachusetts Nurserymen's Association, Boston.

January 10 to 12, Illinois State Nurserymen's Association, Hotel La Salle, Chicago.

January 13, New York State Nurserymen's Association, Seneca hotel, Rochester.

January 16 and 17, Indiana Nurserymen's Association, the Athenaeum, Indianapolis.

January 16 to 18, Ohio nurserymen's short course, Ohio State University, Columbus.

January 17, Virginia Nurserymen's Association, Richmond.

January 18, Connecticut Nurserymen's Association, agricultural experiment station, New Haven.

January 18 and 19, Iowa Nurserymen's Association, meeting and short course, Iowa State College, Ames.

January 18 and 19, Oklahoma State Nurserymen's Association, Hotel Huckins, Oklahoma City.

January 19 to 21, Ohio Nurserymen's Association, Netherland Plaza hotel, Cincinnati.

January 24 and 25, New England Nurserymen's Association, Boston, Mass.

January 24 and 25, New Jersey Association of Nurserymen, Trenton.

January 24 and 25, Pennsylvania Nurserymen's Association, Hotel Hildebrecht, Trenton, N. J.

January 25, Nebraska Nurserymen's Association, Cornhusker hotel, Lincoln.

January 25, North Carolina Association of Nurserymen, department of agriculture building, Raleigh.

January 26 and 27, Tennessee State Nurserymen's Association, Hotel Hermittage, Nashville.

February 6 to 10, New Jersey nurserymen's short course, Rutgers University, New Brunswick.

February 8 and 9, Michigan Association of Nurserymen, Hart hotel, Battle Creek.

February 9, Wisconsin Nurserymen's Association, Republican hotel, Milwaukee.

of the central region, American Association of Nurserymen, at which Clarence O. Siebenthaler, Dayton, O., will preside.

The program for the regional meeting in itself is interesting, but has the added feature of an address by "Charlie Chestnut," monthly contributor to the American Nurseryman, on "Surpluses and Shortages."

The completed program follows:

JANUARY 10, 9:45 A.M.

Call to order.

President's address, by Arthur H. Hill, Dundee.

Treasurer's report, by Arthur L. Palmgren, Glenview.

After the formal opening of the convention, the meeting will be turned over to the conference of the central region, American Association of Nurserymen, with the regional chairman, Clarence O. Siebenthaler, Dayton, O., presiding.

"Streamlining the Nursery Business," by F. R. Kilner, editor, American Nurseryman, Chicago.

"Functions of a National Organization," by Chet G. Marshall, president, American Association of Nurserymen, Arlington, Neb.

"The Washington Office," by Richard P. White, executive secretary, A. A. N., Washington, D. C.

"The Plant Buyer's Guide" and "Clip Sheet Service," by Paul Stark, Louisiana, Mo.

"Government Specifications," by R. P. White.

"National Parks," illustrated, by Dr. C. H. Wegeman, regional geologist, National Park Service, Omaha, Neb.

JANUARY 10, 2 P.M.

"Surpluses and Shortages," by Charlie Chestnut, Riverbend, Ill.

"Federal Legislation Affecting Nurserymen."

Government Competition, R. P. White  
Farm Forestry, Chet G. Marshall  
Quarantine 37, Richard P. White  
Social Security, C. O. Siebenthaler  
Unemployment Compensation, Miles W. Bryant

Wages and Hours, Richard P. White  
Trade Barriers, Lee McClain

"Arrangements for the Portland Convention," by Avery G. Steinmetz, Port-

land, Ore., and W. J. Smart, chairman transportation committee, Dundee.

Reports of chapter presidents:

- 1—Ohio, Barrett Cole.
- 2—Michigan, Arthur L. Watson.
- 3—Illinois, A. H. Hill.
- 11—Indiana, Vernon H. Krider.
- 15—Wisconsin, Karl Junginger.

Regional meeting for 1940.

JANUARY 11, 9:30 A.M.

Closed session. A round-table discussion of several legislative problems that confront Illinois nurserymen during the coming year, including the proposed Illinois wages and hours law, the proposed horticultural license law, the proposed increase in truck license fees and the Illinois unemployment compensation law as it affects nurserymen.

JANUARY 11, 1:30 P.M.

"Current Inspection and Quarantine Problems," by H. F. Seifert, chief plant inspector, Illinois department of agriculture, Glen Ellyn.

"Inviting Trouble," by Joseph T. Meek, director of public relations, Illinois Chamber of Commerce; editor, Illinois Journal of Commerce.

"Insect Pests of Ornamental Trees," by Dr. W. P. Flint, entomologist, Illinois natural history survey, Urbana.

"New and Rare Trees and Shrubs, and New Uses for Some Older Plant Material," illustrated, by Dr. Donald Wyman, horticulturist, Arnold Arboretum, Jamaica Plain, Mass.

JANUARY 12, 12:15 P.M.

Luncheon: Tickets, \$1.50 per plate. Entertainment.

Luncheon address, "A Better Way for 1939," by Harry Newman Tolles, Sheldon School of Salesmanship and Business Training, Chicago.

"The Reforestation and Erosion-control Work of the Illinois Division of Forestry," by Anton J. Tomasek, state forester, Springfield.

"Some Promising New Small Fruits," illustrated, by Dr. A. S. Colby, University of Illinois, Urbana.

Business session.  
Reports of standing committees.  
Unfinished business.  
New business.  
Election of officers.

## IOWA SHORT COURSE.

The second annual short course for the Iowa State Nurserymen's Association will be held at the Iowa State College, Ames, January 18 and 19. The program, which has been designed to include certain fundamentals of nursery practices, will

## ILLINOIS PROGRAM.

The complete program for the twenty-third annual convention of the Illinois State Nurserymen's Association, to be held January 10 to 12, at the Hotel La Salle, Chicago, has been announced by Miles W. Bryant, secretary.

The program differs from the one printed in the December 15 issue of the American Nurseryman in that the first day of the convention, January 10, will be turned over to a meeting

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	Per 1000
¼-in. and up, branched.....	\$10.00
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No. 1, 2/16-in. and up, branched ..	8.00
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No. 2, 2/16 to 3/16-in., branched ..	5.00
No. 2, 2/16 to 3/16-in., straight ...	4.00
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**—WANTED TO BUY—**

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18 to 24 ins. 2 to 3 ft.  
Colo. Blue, Norway and Black Hills Spruce, in smaller sizes suitable for retail.  
Viburnum Lentago and dentatum, 3 to 4 ft.  
Rosa Wichuriana and setigera, 1 and 2-yr.  
Rosa lucida, humilis, carolina.

18 to 24 ins. 2 to 3 ft.  
Cornus paniculata and Amomum, 2 to 3 ft. 3 to 4 ft.

Send us your surplus list of Shade Trees, Shrubs, Evergreens and Vines suitable for retail and wholesale trade. Also send us your current wholesale list at once.

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**WANTED****Pound Sweet Apple Tree**

If you have a good straight tree 3 to 4-in. caliper, well formed and healthy, let me have a price on same balled and burlapped, delivered to Syracuse. No substitute. If not size asked for, what have you?

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Landscape Contractors

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**ASPARAGUS**

Mary Washington, rust-resistant variety. Can supply any quantity and grade of 1-year and 2-year roots weighing 50 to 200 pounds per 1000. Prompt shipment of large and small orders. Fresh dug roots. Let me know your wants.

C. D. WRIGHT

Hamburg, Iowa

have special reference to new methods for the propagation of woody plants.

D. C. Kiplinger, department of horticulture of the University of Ohio, will be the guest speaker and will conduct a symposium on synthetic growth substances, a subject to which he has devoted a great deal of study.

On the morning of January 18, the Iowa State Nurserymen's Association will hold a business meeting, open only to members of the association.

A fee of \$1 will be charged for the course, and registration will take place in the dairy industry building.

The complete program follows:

**JANUARY 18.**

"The Soil on Which We Grow Our Trees," by B. J. Ferkins, department of agronomy.

Business meeting of the Iowa State Nurserymen's Association.

Cafeteria luncheon at the Memorial Union.

"Research of Interest to Nurserymen," by D. C. Kiplinger, department of horticulture, Ohio State University.

"The General Economic Outlook," by L. G. Allbaugh or L. K. Soth, department of agricultural economics.

"Landscape Architecture for the Farm and Home," by John R. Fitzsimmons, department of landscape architecture.

Dinner, Sheldon Munn hotel. C. C. Smith, president of the Iowa State Nurserymen's Association will preside.

"The American Pomological Society and Its Relationship to the Nursery Industry," by B. S. Pickett, department of horticulture.

Entertainment.

**JANUARY 19**

"New Methods and Control of Dan-deliions and Other Weeds," by E. P. Sylvester, department of botany.

Symposium, "The Effect of Synthetic Growth Substances on the Rooting of Plants," conducted by D. C. Kiplinger, University of Ohio; B. S. Pickett, W. E. Loomis, H. W. Richey, Marcus Maxon, Iowa State College, and Harold Welch, Mount Arbor Nurseries, Shenandoah.

Cafeteria luncheon at the Memorial Union.

"Diseases of Ornamentals," by I. E. Melhus, department of botany.

"Insect Problems," by H. M. Harris and members of the department of zoology.

"What the Customer Wants," by J. B. Wingert, department of horticulture.

"What the Nurseryman Can Furnish the Customer in the Way of Materials and Service," by C. C. Smith, Sherman Nursery Co., Charles City; Harold Welch, Mount Arbor Nurseries, Shenandoah; Harold Parnham, landscape contractor, Des Moines, and George Marshall, Marshall's Nurseries, Arlington, Neb.

**NEW JERSEY SHORT COURSE.**

The first annual short course in nursery management to be given by the college of agriculture of Rutgers University will be held the week of

**CARLOAD LOTS**

ELM, American, Moline and Vase, up to 4 ins. All transplants.

MAPLE, Norway, up to 3½ ins. Transplants, extra select, spaced 7x7 ft.

POPLAR, Lombardy, up to 2 ins.

WILLOWS, Thurlow, up to 3 ins.

BARBERRY, Thunbergii, up to 2 to 3 ft.

SPIRÆA, Vanhouttei, up to 5 to 6 ft.

APPLE, 2-year.

CHERRY, 1-year.

PEACH.

All of above items can be supplied in carload lots.

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Tree and Shrub

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**North Dakota and Montana Seeds**

Juniperus scopulorum

(Silver cedar)

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**E. C. MORAN**

Garrison, Mont.

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**NORTHERN MINNESOTA TREE SEEDS**

Including

Pinus Banksiana, Jack Pine

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Picea Canadensis, White Spruce

Write for samples and prices.

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**AMERICAN NURSERYMAN**



February 6 to 10, at the college farm, New Brunswick, N. J. It has been prepared for the benefit of persons actively engaged in the nursery business and will emphasize problems of production, marketing and management, which will be covered in a series of lectures by authorities on the various subjects.

The course will be limited to sixty persons, and applications must be received by the director of resident instruction at the college, on or before February 3, and they will be accepted in the order received.

A certificate of attendance will be presented to all nurserymen who have registered and attended the sessions of the course.

The program will be as follows:

#### MONDAY, FEBRUARY 6.

Welcome by Prof. F. G. Helyar.  
 "How to Grow Plants," by J. W. Shive.  
 Lunch, Spinning Wheel restaurant.  
 "The Value of Rapid Soil Tests, Some New Fertilizing Materials, Their Reactions and Use," by D. M. Goss.  
 "Physical and Chemical Properties of Soil and Their Relation to Tree Growth," by J. S. Joffe.

#### TUESDAY, FEBRUARY 7.

"Drainage Problems in the Nursery," by E. R. Gross.  
 "Trends in Demand for Nursery Stock," by L. C. Chadwick, Ohio State University.  
 Luncheon.  
 "Meeting the Nutritional Requirements of Nursery Plants," by O. W. Davidson.  
 "Selection of Woody Ornamental Plants," by L. C. Chadwick.  
 "Lawn Maintenance," by H. B. Sprague.

#### WEDNESDAY, FEBRUARY 8.

"What Is Humus?" by S. A. Waksman.  
 "The Mind of the Nursery Patron," by D. B. Lucas, New York University.  
 Luncheon.  
 "Making a Customer Out of a Buyer," by D. B. Lucas.  
 "Nursery Ethics and Economics," by C. H. Connors.  
 "The Relationship Between the Client and the Nurseryman in Lawn Problems," by H. B. Sprague.

#### THURSDAY, FEBRUARY 9.

"The Use of Plants after They Leave the Nursery," illustrated by Ben C. Blackburn.  
 "The Steps in Marketing Nursery Stock," by L. A. Bevan.  
 Luncheon.  
 "Can Marketing Methods be Improved?" by L. A. Bevan.  
 "Insecticides and Their Use by Nurserymen," by C. C. Hamilton.  
 "Some New Suggestions on the Propagation of Ericaceous Plants by Cuttings," by Henry Skinner, Cornell University.

#### FRIDAY, FEBRUARY 10.

"Identification and Control of Typical Nursery Insect Pests," by C. C. Hamilton.  
 "The Control of Diseases in Nursery Stock," by P. P. Pirone.  
 Luncheon.  
 "The Importance of Keeping Cost Accounts in the Nursery," by Henry Keller.  
 Summary of the short course.  
 Question box and nurserymen's suggestions.

### OHIO SHORT COURSE.

The program for the tenth annual short course for nurserymen, landscape gardeners and arborists to be given by Ohio State University, in the horticulture and forestry building, Columbus, January 16 to 18, is as follows:

#### JANUARY 16, 2:15 P.M.

Report on experimental work at Ohio State University during 1938, by L. C. Chadwick.

"Further Data on the Use of Synthetic Growth Substances as an Aid to Rooting of Deciduous and Evergreen Cuttings," by D. C. Kiplinger.

"Review of Recent Experimental Work of Value to Nurserymen, Landscape Gardeners and Arborists," by Henry T. Skinner, Cornell University.

"Perennials for Ohio Gardens," illustrated, by Victor H. Ries.

"Selection of Woody Ornamental Plants," illustrated by L. C. Chadwick.

#### JANUARY 17, 8 A.M.

Symposium: Nature and control of diseases—Discussion leader, Paul Tilford, agricultural experiment station.

"What You Should Know About Spray Materials," by Harold A. Waters, Sherwin-Williams Co., Cleveland.

"Some New Developments on Diseases of Nursery Stock and Their Control," by P. P. Pirone, New Jersey experiment station, New Brunswick.

"Diseases of Mature Plants, Trees, Evergreens, Shrubs and Flowers," by Paul Tilford.

#### JANUARY 17, 1 P.M.

Symposium: Estate management—Discussion leader, Alex Laurie.

"General Problems," by W. E. Fischer, superintendent, Hillbrook estate, Chagrin Falls.

"Lawns, Their Construction and Management," by J. Melvin Easterday, Easterday Landscape Service, Canton.

"Evergreens, Shrubs and Flowers," by Alex Laurie.

"Trees," by Homer L. Jacobs, Davey Tree Expert Co., Kent.  
 Dinner.

"The Department of Horticulture at Ohio State University," by J. H. Gourley.

"English Gardens in Color," by Harvey Bicknell, Bicknell Horticultural Service, Shaker Heights.

#### JANUARY 18, 8 A.M.

Symposium: Insects, nature and control—Discussion leader, C. R. Neiswander, agricultural experiment station.

"Nursery Insect Problems," illustrated,

### QUALITY — HARDY FRUIT and FOREST TREES

CHINESE ELM AMERICAN ELM  
 GREEN ASH  
 RUSSIAN OLIVE CARAGANA  
 PLUMS — APPLES — ROSES  
 HANSEN'S BUSH CHERRIES

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SEEDLINGS — TRANSPLANTS  
 or SEE Page 20, AMERICAN  
 NURSERYMAN, Dec. 15, 1938

THE HOUSE OF GURNEY, Inc.  
 Yankton, South Dakota

by F. L. Gambrell, New York experiment station, Geneva.

"Mature Plants; Evergreens, Shrubs and Flowers," by Ralph H. Davidson.

"Trees," by C. R. Neiswander.

### WISCONSIN DATE SET.

February 9 has been selected as the date for the annual meeting of the Wisconsin Nurserymen's Association, which will be held at the Republican hotel, Milwaukee, according to Thomas Pinney.

### TENNESSEE MEETING.

The annual meeting of the State Nurserymen's Association of Tennessee will be held January 26 and 27 at the Hotel Hermitage, Nashville, according to G. M. Bentley, secretary.

Prominent speakers scheduled to appear on the program are: Robert Sturdevant, lecturer on landscaping, Harvard University; C. H. Brannon, state entomologist, Raleigh, N. C.; M. S. Yeomans, state entomologist, Atlanta, Ga., and Lee McClain, Washington Heights Nurseries, Knoxville, Tenn., chairman of the A. A. N. committee on trade barriers.

JOHN M. STOUT, JR., Robersonia, Pa., assumed the duties of vice-president of the Farr Nursery Co., Weiser Park, Pa., December 19, having purchased a third interest in the firm. Other officers of the concern are Charles M. Boardman, president, and H. G. Seyler, secretary-treasurer, both of Weiser Park.

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in gearling and June Bud stock.

Also Bartlett Pear, French and Robe de Sergeant Prune and Newton Apple in 2-year branched at 32 inches.

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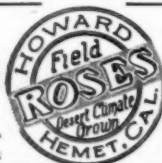
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Fruit, Shade, Flowering Ornamental Trees, Fruit-tree Seedlings, Roses, Etc.  
Very complete line of quality stock  
Catalogue sent on request.

## FRUIT TREE SEEDLINGS

Apple, 3/16-in.	Western-Grown	Per 1000
French Pear, 3/16-in.		\$12.00
Myrobalan Plum, 1/2-in.		12.00
These are well graded, sturdy, healthy seedlings, on which we do our own budding, and are sure to please. Supply limited.		

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## CALIFORNIA NOTES.

A meeting of the California Association of Nurserymen's board of control was held December 14 at the Mayfair hotel, Los Angeles, to adopt a new set of by-laws.

William E. Silva, of the Silva Rare Plant Gardens & Nursery, Reseda, covered the subject of soil preparation and the right shrubs and flowers to plant, in the San Fernando Valley Times, recently, for the benefit of gardeners in that area. With the Los Angeles territory so large and varied, the general information given out sometimes results in disappointment to amateur gardeners.

R. W. Hamsher, tree expert of West Pico boulevard, and Thomas Tomson, landscape architect, swung eighteen tons of 50-foot twin palms, Washingtonia robusta, growing from a single root, into position in one corner of the patio of the new \$10,000,000 Union passenger terminal at Los Angeles last month and placed an identical set in the other corner. This was the first step in landscaping the terminal, which it is planned will provide travelers with a fine vista of California flora upon their arrival in Los Angeles.

The annual Christmas party of the Southern California Horticultural Institute was held December 14, at the Mayfair hotel, with seventy-five in attendance. Murray McNeil was in charge of the arrangements, assisted by Opal Scarborough. Peck & Wadsworth, tree specialists, gave a 16-foot deodar tree, which was beautifully decorated. The Ladies' Auxiliary put on a clever skit concerning nurserymen, in which Opal Scarborough impersonated the genial H. J. Scherer, well known institute member.

A successful Christmas party was given by the Central California Nurserymen's Association at the Hotel Claremont, Berkeley, December 15. Nearly 100 members and their friends attended.

## LAKE COUNTY MEETING.

C. N. McIntyre, state seed analyst, was guest speaker at a dinner meeting of the Lake County Nurserymen's Association, December 20, at Painesville, O. Mr. McIntyre, nursery inspector in that district twelve or fifteen years ago, spoke as a national observer of the nursery business. His talk led to a discussion of the nursery license bill.

## FRUIT and SHADE TREE SEEDLINGS

Oregon and Washington Grown

Apple, Pear, Mahaleb, Mazzard, Myrobalan

Quince (rooted cuttings)

Chinese Elm Seedlings

Complete Line General Nursery Stock.

Chinese Elm, Transplanted Specimens.

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To the Trade Only

A complete line of  
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We have the finest seedlings in quality and grades that we have ever had: Apple, French Pear, Ussuriensis, Jap. Serotina, Mahaleb, Mazzard, Myrobalan and Quince.

Also 10,000 Chinese Elm trees, 4 ft. to 8 ft.

Give us a chance to furnish you the best stock you have ever received. Write for prices. 24 years' experience.

John Holmason, Prop.

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## REGULATORY LAWS.

[Continued from page 4.]

infested or infected, they were refused entry. This act was amended in the Seventy-fourth Congress by public law 643 so that plants or plant materials, entry of which was prohibited by state law into a state operating under this act, may be rejected. This action, however, cannot be taken unless and until the state has received the approval of the United States Secretary of Agriculture with regard to the plants and plant products and the plant diseases and insect pests transmitted thereby. The postal laws and regulations, section 596, as amended further states that the state "shall establish and maintain at the sole expense of the state such inspection at one or more places therein."

A state wishing to make use of this law and establish post office inspection must submit to the Secretary of Agriculture for his approval "a list of plants and plant products and the plant pests transmitted thereby." Thirteen states, the District of Columbia and Hawaii have established post office terminal inspection, and others are considering the subject.

The lists of materials subject to terminal inspection submitted by the several states to the Secretary of Agriculture do not specifically indicate plants proposed to be subjected to terminal inspection nor the disease or insect pest liable to be introduced thereon, but are blanket all inclusive statements. Citation of one will suffice, since all are similar:

All florists' stock, trees, shrubs, vines, cuttings, grafts, scions, buds, fruit pits and other seeds of fruit and ornamental trees or shrubs, and other plants and plant products for propagation, except vegetable and flower seeds.

Certain states make further exceptions such as "tomato, egg plant, pepper, cabbage, etc." Such exceptions apparently constitute no pest risk, or on the other hand, it may be assumed that state inspection officials of other states are considered qualified to certify freedom of pests on such material, but unqualified on the remainder of the plant kingdom. As a third possibility, it may be that such states regularly import such materials for crop production purposes due to their not being produced at home.

It is felt by the nursery trade that such exceptions directly discriminate against them and that such states as require post office terminal inspection

should be required to submit an itemized list of plants and the injurious insects or diseases (not common or generally distributed pests) liable to be carried thereby to the Secretary of Agriculture and that the Secretary should edit such lists as required by law. If such were done, and the principles of plant quarantine were followed, placing terminal inspections on the same sound biological basis as plant quarantines, it is felt that most of the nurseryman's complaint would vanish.

However, there is undue delay occasioned by this procedure. As a matter of record it is known that certain parcel post shipments subject to postal inspection have been delayed up to thirty days. Five to ten days' delay is common.

It is believed that the states enforcing terminal inspection are not complying with the intent of that provision of the law which states that they should establish and maintain inspection at one or more points. It is frequently days before an inspector can make inspections at a terminal due to other duties. In the meantime, the nursery stock is lying in a hot dry post office. After inspection, the inspector has no facilities for satisfactorily repacking the material and it is thus frequently received in a damaged condition and not fit to plant. The consignee pays the postage from his post office to the inspection terminal and return, and this, as well as the delay occasioned, is a constant source of annoyance to him. It must also be a constant source of annoyance to the postal authorities. Ramsey Black, Third Assistant Postmaster General,

in considering post office terminal inspection, wrote June 23, 1938, as follows:

The complexities which arise, because of the many federal and state quarantines, and the various prohibitions and restrictions thereof, make it difficult to have all postmasters and postal employees throughout the country fully informed.

The fact that practically all plants are subject to terminal inspection by those states requiring it results in an effective trade barrier. State quarantines, if sound, are directed against specific pests liable to be carried by specific plants from specific areas where the pest is known to exist; in other words, on a sound biological basis. Terminal inspections of plants and plant products should parallel state quarantines, rather than subject all plants, from all states, to the delay and unfavorable conditions to which such shipments are now subject.

The immediate solution of this problem would seem to be:

- (1) To restrict post office terminal inspection to those specific plants and plant products liable to carry specific plant pests against which federal or state quarantines are in force.
- (2) For states requiring dual inspection to arrange for inspection of such shipments within a period of forty-eight hours and to provide the inspectors with adequate facilities for repacking.
- (3) States requiring dual inspection should be required to bear the cost of such immediate inspection including postage from and to the consignee. It was not the intent of Congress to burden the farmer or housewife with this added cost.

## Reciprocity.

The system of fees and bonding followed by certain states has led to reciprocal laws in other states, remi-

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25¢ per 100, \$2.00 per 1000

Red June	Golden Sweet	W. Banana	Ea. McIntosh
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Kansas-grown Apple Seedlings, No. 1, 3/16-in. and up, straight, \$1.00 per 100, \$9.00 per 1000. No. 2, 2/16 to 3/16-in., straight, 75¢ per 100, \$6.00 per 1000.

Thornless Multiflora Rose Cuttings, No. 1 quality, \$2.00 per 1000.

## SURPLUS APPLES, vigorous well-branched stock

	7/16-in.	9/16-in.	11/16-in.	1-in. up
	8¢	13¢	17¢	20¢
Ada Red	417	366	142	56
Black Ben Davis	593	744	964	220
Blood Red Delicious	3719	22,698	4831	28
Yellow Delicious	235	225	474	227
Early Red Bird	442	903	2387	15
Jonathan	4329	3,480	5126	688
Mammoth Black Twig	1060	1,280	2565	200
Blood Red Stayman	138	184	163	...
Red Astrachan	80	150	...	...

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niscent of colonial days. In other words, one state says to another: "If you charge a \$25 fee to my nurserymen for a permit to ship into your state, we will charge your nurserymen a like fee." What conceivable relationship can this have to pest control? It is clearly a retaliatory measure and cannot but decrease interstate movement of goods. I am reliably informed that a highly restrictive piece of state legislation last spring was averted only by the threat of retaliatory measures even more restrictive from other neighboring states.

The zenith of reciprocal laws was passed last year in a certain state law, section 1 of which reads as follows:

Be it enacted by the legislature of ..... that hereafter, in order to provide a system of reciprocal quarantines or embargoes between this state and other states, territories and foreign countries, it shall be unlawful for any person, firm or corporation to ship or transport into this state, or to sell, deal in or handle in any manner within this state, any agricultural or horticultural plant or plant product from any state, territory or foreign country which prohibits the shipment from this state of any such agricultural or horticultural plant or plant products by reason of quarantine or embargo of any kind or nature.

While not a subject of pest control, the laws of another state have clearly and openly given the inspection authorities power to embargo the products of all other states if the supply of the home-grown commodity is sufficient for the needs of the state. Section 8 of the law referred to is as follows:

The commissioner of agriculture in carrying out the terms of this bill shall, in addition to the power heretofore given him, have authority to inspect all fruits, vegetables and truck crops coming into ..... markets or offered for sale within the state. He shall have power, and is hereby directed, in so far as is possible, to protect the ..... growers and consumers of fruits, vegetables and truck crops by declaring an embargo on any fruits, vegetables or truck crop coming into this state when the supply of the same fruit, vegetable or truck crop grown in this state is ample for the markets of this state at that time.

This law is intended frankly to benefit the growers of that state at the expense of out-of-state growers and also at the expense of the consuming public. It makes use of the quarantine method of prohibiting the movement of goods into the state, contrary to free trade principles between states.

Is it to such extremes that the chaotic situation regarding state quarantines, terminal inspections, fees and bonds, etc., is leading us? If so, then the situation is really acute and no

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**Turley, Yellow Delicious, Solid Red  
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## Cherry Laurel and Nandina Seed

Nandina seed (berries), \$1.00 per lb.  
Cherry Laurel seed (berries), 25c  
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time should be lost in correcting this growing disease of American commerce.

### What Can Be Done?

Criticism of an existing condition is always easier than offering a constructive solution of apparent or imaginary difficulties. However, starting with the premises that:

- (1) Restrictive and regulatory laws should be concerned solely with pest control,
- (2) that the least possible interference with free trade between states is desirable,
- (3) that the objectives sought in regulatory laws should be reasonable of attainment,
- (4) and that the economic gains expected must outweigh the cost of administering and the losses occasioned by interference with trade,

we can proceed to survey the possibilities:

(1) Voluntary acceptance of state certificates as final authority for entry.

If all states were confident of sufficient and adequate inspection in the state of origin, terminal or destination inspections of out-of-state shipments would not be required. Nursery stock shipments, whether by freight, express or parcel post, carrying a current inspection certificate of the state of origin would proceed to destination without delay, expense or inconvenience. Unfortunately, it is claimed that inspection services in some states may not be so critical in the discharge of their duties as those of other states. This situation, if existent, is not impossible of solution. The nurserymen of all states are desirous of strict inspection services for their own protection. Their future business depends upon it. In such lax states, if any, it seems that considerable influence might be brought to bear by the nursery interests themselves in the demand for adequately trained personnel and the financial support of such a staff. Some states already accept other states' certificates as final

authority and, as far as can be determined, are not overrun with pests of out-of-state origin.

The recent progress made by the national and regional plant boards in seeking uniformity of state quarantines, standardization of inspection practices and simplification of shipping procedure would suggest that a solution of these problems may evolve solely through state initiative, with the guidance and leadership of the plant boards. Such will of necessity be a slow and gradual process of evolution.

(2) Coöperative federal-state regulation.

If the purpose of state quarantines, regulations, inspections, etc., is solely to prevent the introduction of plant pests, and if all state inspection officials could be assured of adequate inspection in the state of origin, then as a natural sequence, dual inspections at destination or in transit, fees and bonds, reciprocal quarantine laws and all the appurtenances to state regulation of the movement of nursery stock could be dispensed with.

The first supposition must be accepted, as it merely restates the intent of all state plant pest acts. The second must then become the stumbling block to general acceptance of other states' certificates as final authority for entry.

In order to convince all state authorities enforcing state quarantine laws and regulations that all other states have an adequate and trained personnel capable of certifying stock as pest free, some means must be found to raise all inspectors to the same and high level of competency. This can

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Am 38 years of age, married, college graduate in horticulture and have devoted my entire life to all branches of the nursery trade, particularly landscape and retail. Have good approach and am in high standing in our community.

Only circumstances beyond my control force me to make a change. In replying please give a short résumé of particulars and what is expected.

Address No. 109, care of American Nurseryman, 508 S. Dearborn St., Chicago, Ill.

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only be done uniformly through federal action. It is proposed that:

1. State inspectors of nursery stock be licensed by the Secretary of the United States Department of Agriculture, said license to be granted only after an examination in which the qualifications of the applicant can be thoroughly examined. This is a matter of legislation.
2. Salaries and expenses of state inspectors be paid solely from state funds.
3. Federally licensed state inspectors be placed under the states' civil service systems, in those states where such systems exist.
4. Federally licensed state inspectors be under complete control of the state inspection officials, except (a) in so far as he may be removed for cause by civil service rules and regulations of the state of employment, or (b) except as he may show incompetence in the discharge of his duties, when it shall be incumbent upon the Secretary of Agriculture, upon proof of such incompetence, to revoke the license.

The licensing provisions of such a plan would necessarily be invested in authority higher than the states themselves. The Secretary of Agriculture already has license authority invested in him by virtue of various acts. (Grain standards act.) Inspection of all nursery stock would be mandatory. The resulting certificate issued would carry the stamp of federal authority through its licensed inspectors, but would be issued by the authorities of the state of origin. Such a system would call for acceptance by all states of sound plant quarantine principles and a standardization of nursery stock inspection objectives and means of attainment.

- (1) Such a system would immediately attract to the inspection services of the several states a high-type, college-trained personnel.
- (2) It could not but raise the standards of the various inspection services.
- (3) It would retain control of inspection within the individual states, where we believe control should be centered.
- (4) It would remove red tape, annoyance, duplication, delay and expense.
- (5) It would forestall any further progress of vicious reciprocal laws set up frankly as trade protection to in-state producers at the expense of the public.
- (6) It would decrease the pest risk involved.
- (7) It would assure all states that incoming nursery stock had been adequately inspected by a federally licensed inspector under state authority. And finally,
- (8) It would restore freedom of trade between states in so far as nursery stock is concerned to that point consistent with biologically sound pest control regulations and, as a result, would stimulate business.

The present system of individual states acting as forty-eight separate and independent political units in matters of this nature is rapidly becoming

# TIE

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one of serious national concern and consequences. It is obvious that to continue under the present conditions is not feasible.

I have suggested an alternative proposal wherein the federal government will play an important, but not dominating part. There still remains a third possibility.

(3) Complete federal control of inspection of stock for interstate commerce:

If the several states are unable to cooperate with the federal government or among themselves on a system of nursery stock inspection by which interstate movement of such commodities by freight, express or mail is facilitated, the only solution left would seem to be to bring about this desirable result through the coercive powers of the federal government. Such an eventuality we hope will never be needed. It would necessitate a largely increased and costly personnel for enforcement and supervision. Control would be centralized in federal authority over interstate movements, in the state authorities over intrastate movements. This would lead to duplication of inspection services not in the interests of economy and efficiency, and would tend to create more problems and confusion than it would solve or eliminate.

In conclusion, it would seem to be in the public welfare that solutions to these problems be sought through cooperative discussions at as early a date as possible. Progress toward this objective is indeed gratifying, but the end of the road is not yet in sight. Honest differences of opinion are bound to be met along the way, but the cooperation of all interested groups and the free discussion of the problems involved, should bring a speedy and mutually advantageous result.

FORMERLY located at Sedro-Wooley, Wash., the Wayside Bulb & Alpine Garden has moved to a new location at Alderwood, Wash., on a tract of land purchased by Lloyd Hilderbrand, proprietor.

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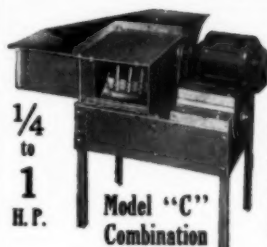
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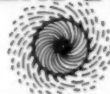
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6 to 12 inches, S.	.35	2.50	20.00
12 to 18 inches, S.	.40	3.00	25.00
18 to 24 inches, S.	.50	4.00	35.00

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Prinus, Chestnut Oak			
	Per	Per	Per
	10	100	1000
4 to 6 inches, S.	\$0.30	\$2.00	\$15.00
6 to 12 inches, S.	.35	2.50	20.00
12 to 18 inches, S.	.40	3.00	25.00
18 to 24 inches, S.	.50	4.00	35.00
2 to 3 feet, S.	.60	5.00	45.00

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	Per	Per	Per
	10	100	1000
6 to 12 inches, S.	\$0.15	\$1.25	\$10.00
12 to 18 inches, S.	.20	1.50	12.00
18 to 24 inches, S.	.25	2.00	15.00
18 to 24 inches, Tr.	1.20	10.00	
2 to 3 feet, Tr.	2.00	15.00	

### ROSA MULTIFLORA JAPONICA, Japanese Rose.

	Per	Per	Per
	10	100	1000
6 to 12 inches, S.	\$0.50	\$4.00	
12 to 18 inches, S.	.60	5.00	
18 to 24 inches, S.	.70	6.00	
12 to 18 inches, Tr.	\$0.50	4.00	
18 to 24 inches, Tr.	.70	6.00	
2 to 3 feet, Tr.	.90	8.00	

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	Per	Per	Per
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6 to 12 inches, S.	\$0.20	\$1.20	\$10.00
12 to 18 inches, S.	.25	1.50	12.00
18 to 24 inches, S.	.30	2.00	15.00
12 to 18 inches, Tr.	.90	8.00	
18 to 24 inches, Tr.	1.20	10.00	
2 to 3 feet, Tr.	2.00	15.00	

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	Per	Per	Per
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6 to 12 inches, S.	\$0.20	\$1.20	\$10.00
12 to 18 inches, S.	.25	1.50	12.00
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### AMPELOPSIS QUINQUEFOLIA, American Ivy.

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6 to 12 inches, S.	\$0.15	\$1.00	\$8.00
12 to 18 inches, S.	.20	1.25	12.00
18 to 24 inches, S.	.35	2.50	20.00
12 to 18 inches, Tr.			
branched	.50	4.00	35.00
18 to 24 inches, Tr.			
branched	.70	6.00	50.00
2 to 3 feet, Tr., branched	.90	7.00	65.00

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	Per	Per	Per
	10	100	1000
1-yr., S., No. 1	\$0.25	\$1.50	\$10.00
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### BIGNONIA RADICANS, Trumpet Creeper.

	Per	Per	Per
	10	100	1000
6 to 12 inches, 1-yr., S.	\$0.30	\$1.25	\$10.00
12 to 18 inches, 1-yr., S.	.25	1.50	12.00
18 to 24 inches, 2-yr., Tr.			
No. 1	.70	6.00	50.00
12 to 18 inches, 2-yr., Tr.			
No. 2	.55	4.50	35.00
2 to 3 feet, 3-yr., Tr.			
No. 1	.80	7.00	60.00

### CELASTRUS ORBICULATUS, Oriental Bittersweet.

### CELASTRUS SCANDENS, American Bittersweet.

	Per	Per	Per
	10	100	1000
6 to 12 inches, S.	\$0.20	\$1.25	\$10.00
12 to 18 inches, S.	.25	1.50	12.00
18 to 24 inches, S.	.30	2.00	15.00
12 to 18 inches, Tr.			
branched, No. 2	.60	5.00	40.00
18 to 24 inches, Tr.			
branched, No. 1	.70	6.00	50.00
2 to 3 feet, extra heavy	.90	7.50	65.00

### LONICERA JAPONICA HALLIANA, Hall's Japanese Honeysuckle.

	Per	Per	Per
	100	1000	10000
Small lining-out	\$0.80	\$6.00	\$40.00
Medium lining-out	1.00	8.00	70.00
1-yr., Tr., No. 1	5.00	40.00	
1-yr., Tr., No. 2	4.00	30.00	
1-yr., Tr., No. 3	2.50	20.00	
2-yr., Tr., No. 1	7.00	60.00	
2-yr., Tr., No. 2	6.00	50.00	

Less 10 per cent discount in 10,000 lots.

### LONICERA SEMPERVIRENS, Scarlet Honeysuckle.

	Per	Per	Per
	10	100	1000
Small lining-out	\$0.15	\$1.00	\$8.00
Medium lining-out	.20	1.25	10.00
1-yr., Tr., No. 1	.60	5.00	40.00
1-yr., Tr., No. 2	.50	4.00	30.00
2-yr., Tr., No. 1	.80	6.00	50.00
2-yr., Tr., No. 2	.70	5.00	40.00

Write for a copy of our wholesale trade list.

## FOREST NURSERY COMPANY, INC.

McMinnville, Tennessee

### VITIS FESTIVALIS, Summer Grape.

### VITIS CORDIFOLIA, Winter Grape.

### VITIS ROTUNDIFOLIA, Muscadine.

	Per	Per	Per
	10	100	1000
6 to 12 inches, S.	\$0.15	\$1.00	\$8.00
12 to 18 inches, S.	.20	1.25	10.00
18 to 24 inches, S.	.30	2.00	15.00

### VINCA MINOR, Common Periwinkle.

	Per	Per	Per
	10	100	1000
Medium lining-out	\$0.70	\$5.00	
Heavy lining-out	\$0.15	1.00	7.00
1-yr., Tr.	.50	4.00	30.00
2 1/2-inch pots, clumps	1.00	8.00	

### WISTERIA CHINESE BLUE.

### WISTERIA CHINESE WHITE.

	Per	Per	Per
	10	100	1000
1-yr., S., No. 2	\$0.35	\$2.50	\$20.00
1-yr., S., No. 1	.40	3.00	25.00
2-yr., Tr., No. 2	1.00	8.00	60.00
2-yr., Tr., No. 1	1.20	10.00	80.00
3-yr., Tr., heavy	1.50	12.00	100.00
3-yr., Tr., heavy	2.00	15.00	

### WISTERIA FRUTESCENS, American Wisteria, good blooming variety.

	Per	Per	Per
	10	100	1000
1-yr., S., No. 2	\$0.30	\$2.00	\$15.00
1-yr., S., No. 1	.35	2.50	20.00
2-yr., Tr., No. 2	1.20	10.00	
2-yr., Tr., No. 1	1.50	12.00	

## Lining-out Evergreens

## Conifers

### BIOTA ORIENTALIS.

	Per	Per	Per
	100	1000	10000
9 to 12 inches, S.	\$2.50	\$20.00	
12 to 18 inches, S.	3.50	30.00	
18 to 24 inches, S.	5.00	40.00	

### JUNIPER VIRGINIANA, Red Cedar.

	Per	Per	Per
	10	100	1000
6 to 12 inches, 1-yr., Tr.	\$2.50	\$20.00	
12 to 18 inches, 1-yr., Tr.	5.00	40.00	
18 to 24 inches, 1-yr., Tr.	7.00	60.00	
Understock, grafting grade	6.00	50.00	

## Broad-leaved

### LAUROCERASUS CAROLINIANA, Cherry Laurel.

	Per	Per	Per
	10	100	1000
6 to 12 inches, S.	\$3.00		
12 to 18 inches, S.	4.00		
18 to 24 inches, S.	5.00		

### MAGNOLIA GRANDIFLORA, Southern Magnolia.

	Per	Per	Per
	10	100	1000
4 to 6 inches, S.	\$4.00		
6 to 9 inches, S.	6.00		
9 to 12 inches, S.	8.00		

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